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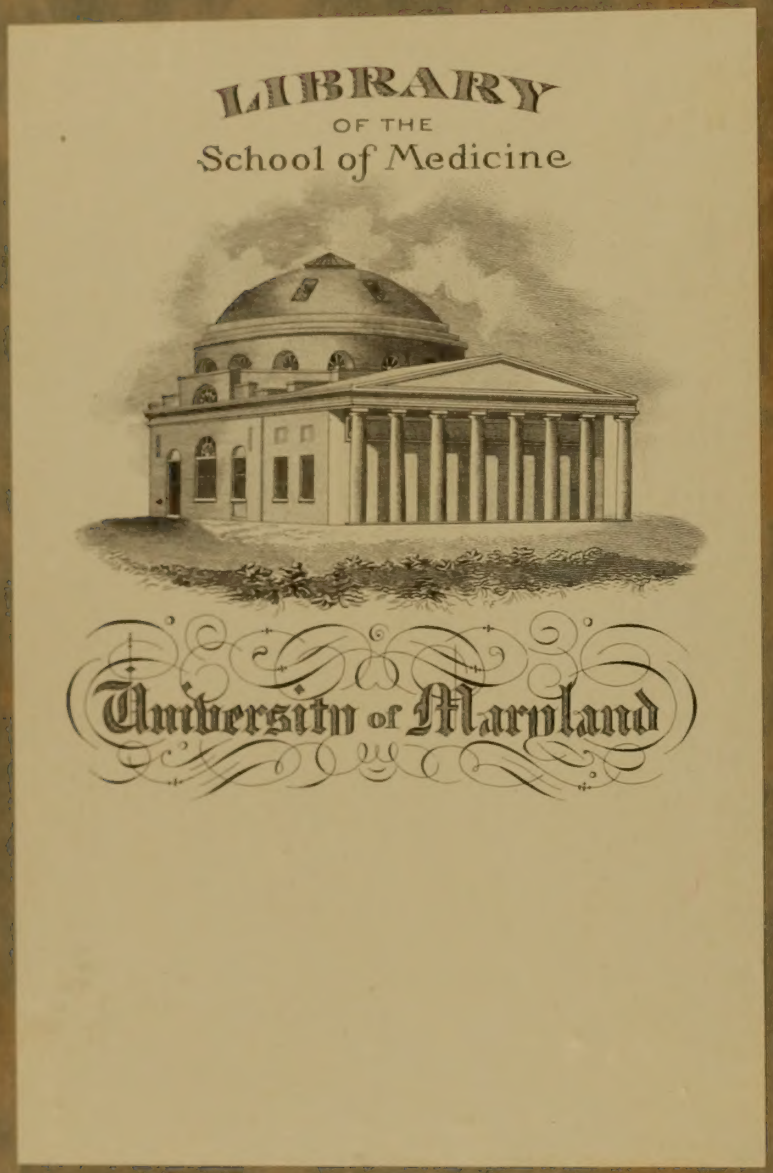

University of Manchester Theses

Early Doctor of Medicine and Doctor of Philosophy Dissertations with
Contrasting Values of Creation

These manuscripts deposited as either early doctoral dissertations or as honorary degrees were presented to the University of Manchester for the Degrees of Doctor of Medicine and/or Doctor of Philosophy during the years 1917-1937. The individual dissertations were bound together during the 1960's. The original values of numbers for the bound volumes contained many gaps owing to missing numbers, titles and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the errors of ignorance were: Richard J. Bellows, Historical Information Processing Officer, Sheila Millington Finlay, Meadow Management Librarian, Angela Cadwallader-Cole, Institutional Repository, Resources Division, Derek Jones, Area Library and Stephen Wright, Services Division.

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University of Maryland Theses

Early Doctor of Medicine and Doctor of Physic Dissertations with Corrected Tables of Contents

These manuscripts described as either an Inaugural Dissertation or an Inaugural Essay were presented to the University of Maryland for the Degree of Doctor of Medicine and/or Doctor of Physic during the years 1813-1887. The individual dissertations were bound together during the 1940's. The original tables of contents for the bound volumes contained multiple errors in authors' names, titles, and/or years. To address these errors, an additional "Corrected Table of Contents" has been inserted at the beginning of each volume.

The project team who investigated and corrected the tables of contents were Richard J. Behles, Historical Librarian/Preservation Officer; María Milagros Pinkas, Metadata Management Librarian; Angela Cochrane and Carol Harling-Henry, Resources Division; Sarah Hovde, Abra Schnur and Megan Wolff, Services Division.

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(CORRECTED TABLE OF CONTENTS)

UNIVERSITY OF MARYLAND

THESES

1865 (b)

Author	Title
Lauver, Milton A.	Tetanus
Hawkins, J. Weems	Circulation of the Blood
Chapman, Robert F.	Respiration
Bowen, Josiah S.	Acute Peritonitis
Pindell, Joseph T.	Glucosuria
Chapman, Pearson Jr.	Phthisis Pulmonalis
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Mitchell, James E.	Therapeutical Action of Alcohol
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Irons, Edward Pontney	Pleurisy
Reed, William P.	Intermittent Fever
Seth, James	Pneumonia
Shipley, Henry C.	Pneumonia
Gross, John J. Jr.	Influenza
Burleigh, William E.	Clinical Report of Six Cases[1]

[1] Stained.

HSHSL 2012 for the UM Digital Archive. Sources consulted for corrections: Original Dissertation; University of Maryland Medical Faculty, Matriculation List, 1821-1851; Cordell, Eugene F. "University of Maryland, 1807-1907" (New York : The Lewis Publishing Company, 1907), Volume 2.

UNIVERSITY OF MARYLAND

THESES

1865 (b)

Lauver, M. A. (Milton)	Tetanus	41p.
Hawkins, J. Weems	Circulation of the Blood	37p.
Chapman, R. F. (Robert)	Respiration	29p.
Bowen, J. S. (Josiah)	Acute Peritonitis	25p.
Pindell, J. T. (Joseph)	Glucosuria	27p.
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Wagner, Harrison	Profession of Medicine	40p.
Betson, ~~Geo.~~ (George) W.	Phthisis Pulmonalis	49p.
Irons, E. Pontney (Edward)	Pleurisy	49p.
Reed, ~~Wm.~~ (William) P.	Intermittent Fever	49p.
Seth, James	Pneumonia	22p.
Shipley, H. C. (Henry)	Pneumonia	37p.
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Burleigh, ~~Wm.~~ (William) E.	Clinical Report of Six Cases	36p.

An

Inaugural Dissertation

on

Tetanus

Submitted for examination

to the

Trustees of Trinity

and

Faculty of Physic

of the

University of Maryland

for the degree of

Doctor in Medicine

by

Nelson N. Lane

of

Maryland

1865

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It is universally admitted, that to be able to repair a machine of any description, which has been broken, or otherwise disordered in its movements, a person must have been previously acquainted with the several parts of the machine, and the manner in which each one of them is connected with, and [illegible] the other parts. The human body is a complicated mechanism, often requiring to be [illegible]; but, in those [illegible] studying it we are required not only to be [illegible] thoroughly acquainted with its mechanism, [illegible] of physics, but also with the addition [illegible] [illegible] connected with the science of physiology, and which

cannot be understood without a close examina-
tion of the structure of the organs of the body, and
the modifications impressed by all the external
causes continually acting upon it, as food, air,
etc. Years of patient thought, careful observa-
tion, and laborious research, are deemed indis-
pensable conditions for the studies of the medical
student ere he can gain any particular insight into
the mysteries of disease; and after all, they
feel that the difficulties which obstructed
their pathway are but imperfectly overcome,
and that they can form but little more than
a general idea of the [illegible]
of [illegible]
[illegible] literature, and then [illegible]
[illegible]
remedies, [illegible]

[illegible] against [illegible] of early education, poverty, and lack of opportunity; but not one of them ever reached eminence at a single leap. Genius has never yet been able to realize its aspirations, nor to furnish materials for the world's history, without time, labor, and strenuous, persistent effort. All medical knowledge is derived from experience, but the student must be satisfied with the experience and teachings of others. The difficulty of selecting the right among so many different opinions, not related by [illegible] [illegible] — has never been questioned, and [illegible] explanation [illegible] is authority for [illegible] by no [illegible] as a guide of great [illegible] to him. I hope [illegible] [illegible]

pends upon observation and experience, it ~~must~~ is not to be expected, (say it would be presumption,) for one whose information has been derived almost wholly from books, who has had no experience, and whose opportunities for observation have been limited, to advance any new ideas, or to deny anything already written. If, therefore, confined by inexperience, to limits so narrow, we in the description of the discussion which we have before us, present theme, but repeat a thread told tales, we earnestly hope our illustrious subject which we have chosen, presents many phases not yet unfolded to view by the hand of investigation, or plausible to critic

ourself to what in our humble judgment appears to be reasonable, and what appears to be the experience of the wisest of the profession in the terrible malady known to them under the name of

Tetanus

Tetanus is essentially a disease of the nervous system, and is characterized by permanent, rigid contraction of the voluntary muscles, with painful spasm, alternating with intervals of relaxation more or less complete, with but little disturbance of the mental faculties. It has received different names, according to its effects and symptomatic diversities. Nearly all medical writers divide it into two varieties, viz; Idiopathic and Sympa

tomatic or Traumatic. The Idiopathic arising independently of any known pathological condition, and the Symptomatic arising from injuries or distinct affections either within or without the spinal axis. It has also received different names according to its obvious effects. Thus when it produces closure of the jaw it is called Trismus. Another form of Tetanus is called Opisthotonos, in which the body, by the action of the strong muscles of the back, is curved or bent backward, the head powerfully extended by the action of the Sterno-Mastoid Muscles, and the patient when lying upon his back rests on the Occiput and heels.

Sometimes the body is bent or arched forward, which form has e-

[illegible] the name of Rheumatism.
[illegible] of the tissues, [illegible]
[illegible] by [illegible] to [illegible] the
[illegible] so called Rheumatisms, [illegible]
[illegible] necessarily. [illegible] of
[illegible] of the rheumatic disease, and now
[illegible] mentions named; [illegible]
[illegible] under the [illegible] of the
[illegible] and [illegible] rheumatic
disease into Acute and Chronic, with
regard to its duration, but there is
only a question of difference of degree
in [illegible].

[illegible] is one of the most fatal
of the rheumatic diseases. [illegible]
consider the symptoms and [illegible] of
Rheumatism in its first stage.

Symptoms The muscles earliest affected appear to be those of the jaws neck and throat. The patient begins to feel a difficulty in turning the head, thinks he has caught cold and complains of what he calls stiff neck. He experiences difficulty in opening the mouth, and at the jaw finally can not be moved as it were locked, hence the common name of lock jaw has been applied to this disease. I may be mistaken in the order of the symptoms as the author at this time is not sufficiently [illegible] to be positive, but I remember [illegible] the stiffness of the neck, the stiffness of the throat, and finding no doubt upon spasm or contraction. The Diagnosis [illegible]

extends to all the voluntary muscles, those of the trunk, the extremities, and the face, the contraction of the last giving rise to what is called the *Risus Sardonicus*, that frightful leer, which characterizes those afflicted with this fearful malady. The [illegible] appearance of tetanic patients is often enough to indicate to the experienced eye the disease under which the patient suffers. The tongue is often severely wounded by being caught between the teeth during the spasm, hence the bloody saliva which sometimes issues from the mouth so fre[illegible] suffocated with trismus. The [illegible] of the muscles may be lasting for [illegible] or they may be relaxed [illegible] and are generally alternate [illegible].

[illegible] the
[illegible] as [illegible]
[illegible] other, [illegible]
The trunk was so rigid, and in consequence of the equal contraction of the muscles of its sides and bottom from their regular action the [illegible] to [illegible] of the [illegible] of diseases, the [illegible] was [illegible] rigid, being [illegible] to [illegible] the powerful muscles of the back, [illegible] the [illegible]
[illegible] 1853
[illegible]
[illegible] the wound
under the head, [illegible]

[illegible] sometimes appeared to avoid a [illegible] and [illegible] the [illegible] of the [illegible] and appeared to be under control of the will, although the tremulous [illegible] were avoided with pain. The frequent [illegible] of the [illegible] and the offended, [illegible] and patients did [illegible] sensation, [illegible] frequently attended [illegible] were [illegible] for, [illegible] and [illegible] of the intestinal [illegible] defecation [illegible] into the intestinal canal [illegible] the [illegible] expulsion from the [illegible]. The [illegible] the [illegible] of the [illegible] influence [illegible] the [illegible] of the Cerebrum and

its force of action upon the vital medium, and in this case [illegible] and in its fatal: [illegible] may be found effects of the remedies administered.

Respiration is quick and panting, the pulse quivering, frequent, but there is little or no fever. In the last stage the face is [illegible] pale, the [illegible] shadowing the approach of death. The prolongation of life, [illegible] depends greatly on the intensity of the convulsive movements; the [illegible] the sooner death occurs.

When [illegible] is [illegible] gradual, the phenomena [illegible] their frequency and [illegible]

[illegible] their rigidity gradually, and become so [illegible] under the influence of the [illegible], and a creeping sensation is felt, they stiffness appears first in the extremities.

The rigidity of death appears to vary. Sometimes it occurs immediately, or very soon after the death, or immediately after the relaxation of the muscles. Most frequently in apoplexy, the [illegible] becoming [illegible] through [illegible] in [illegible] and want of [illegible] consequent upon inability to take food. Death sometimes happens suddenly, from rupture of the heart and [illegible] vessels, [illegible] disease, may [illegible]

lasting from -

lasting from a few hours to several days. Its usual duration is from four or five to eight or ten days. In general with the more acute the more dangerous is the disease. Cases have been recorded which continued for several weeks, some terminating in recovery, others in death. It is lower in the idiopathic form, generally, that is thus contracted.

Another very fatal variety of tetanus is spoken of by medical writers as the second times tetanus, and often occurs children soon after birth. It is very common in hot climates, and among the negroes of the West Indies and Southern States. It is said to be very rapid in its effects; while in some situations

[illegible] the [illegible] infants u-
[illegible] in the Foundling Hospital of in
the ventilated wards of Guy's Hospital.
"Eczema," says Dr. West, "may come on
within [illegible] days after birth, or, on the other
hand may not occur for several days; it
[illegible] makes its appearance within
the [illegible] week. It runs an extending
by rapid course, but is not in a rapid
[illegible] way, [illegible] for affec-
tions [illegible] of [illegible] epidermis
[illegible]; its final termination almost
always taking place within [illegible]
[illegible], often without [illegible] after
the appearance of the first [illegible].
The congenital form of eczema, is recorded
by [illegible] of Trousseau, Lesserteur, &c.

unable it to optimal injury, these are
it is depending on injudicious management
of the medical treat, to be given
and inflicted upon it. This disease is
little, in some cases, the contin
ual or intermittent signs of Syphilis.
The effect on of Syphilis has an
important, or the M. Mercury
cites it liability to improper using
of the Mercurial, and a neglect of
proper elevations. Upon, after the
investigations, he has found that it may
from, or selection attention has
been paid to the decision of the medical
intelligent person, this is the
to the most effectual prophylactic means
in this disease is applied, and but

[illegible] and prophylactic measures are therefore all important. One attention should be paid to ventilation, cleanliness, and the keeping in mind of the fact, as a cause strongly calculated to prevent its occurrence, although by proper attention, we may safely prevent this disease, yet we are deceived in our views of a cure, which is almost hopeless.

With regard to the differential diagnosis of Tetanus, it can scarcely be mistaken for any other disease, though it resembles it, in some respects, but their are striking differences. They resemble each other chiefly in the difficulty of swallowing liquids, [illegible]

the difficulty is in regard of the nerves of deglutition. The pharynx & nerves are most tortuous, & more nearly than those of Hydrophobia, which the pharynx is in a state of convulsion. In Hydrophobia the pharynx is not set, or the muscle is as in Tetanus, and there is a separate disorder of the various vital functions in Hydrophobia than in Tetanus, the existing of the case with the exception of the diagnosis

Hydrophobia & Tetanus, but is to be tested by comparing the peculiarities of the two diseases. In Hydrophobia the pharynx is generally mild, & it is painful; the sensation at the cervical cords, the chief difficulty of deglu-

[illegible] disease, &c., [illegible] characteristic symptoms will enable the careful practitioner to discriminate between the two diseases.

The administration of the drug, in its active principle stramonium, will induce symptoms similar to those of hydrophobia. The sudden rapidity of the attack and the strength of the case are in the instances quoted the same; but the history of the case, together with the study of the disease, is very different. By a careful consideration of all these circumstances, the [illegible] generally be able to [illegible] the [illegible] of the [illegible].

[illegible] according to [illegible]

"Many years ago Ward, — [illegible] as having [illegible] treatment, [illegible] doubt [illegible] form; but allowance [illegible] the [illegible] Idiopathic character of these considered as [illegible]; yet there can be little doubt as to the accuracy of the great [illegible] of the statements; and sufficient [illegible] agreement is offered to the practitioner, [illegible] in the negative [illegible] of remedies which he may consider as [illegible]." Guitt says, "[illegible] that the [illegible] of the complaint is [illegible], if it does not [illegible] the [illegible] of the [illegible] [illegible] [illegible]

[illegible] severity; if it is readily mitiga-
ted by the remedies administered; if
the pulse is not much accelerated; if the
patient sleeps, and if he has been sub-
ject to it before in an intermittent form
On the other hand, the prospect will be
unfavorable, if the spasms increase
in severity, and especially if they affect
the muscles of the glottis"

The prognosis of the idiopathic form
may be regarded as favorable, on the
other hand if the malady result-
ing from wounds or injuries the prog-
nosis may be regarded as unfavorable

The results are doubtful even from the
[illegible] condition [illegible]
[illegible] is entirely [illegible]

It is well known that it prevails to a greater extent in the hot and variable climates of the tropics than in the more temperate latitudes; and is more apt to occur in hot than in cold seasons. Some suppose, (and we think with good reason,) that a depraved state of the health, resulting from bad diet, exposure, vitiated air, and a residence in low, damp situations constitute predisposing causes. It occurs however in the traumatic form in the young, vigorous, and robust.

The exciting causes are very numerous. Wounds of every description, punctured, contused, and lacerated, in fact even the most trivial may bring on an attack of this formidable malady, by

[illegible] of the [illegible]
[illegible] and [illegible] in the
[illegible] of [illegible], [illegible] the [illegible]
[illegible] of [illegible] [illegible]
[illegible] the [illegible] [illegible] and [illegible]
[illegible] [illegible] [illegible] highly dangerous,
and for this reason the [illegible] of
[illegible] disease frequently [illegible] the
the disease, [illegible], [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] the disease
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

[illegible] capable of [illegible] [illegible] [illegible]
for this [illegible] [illegible] [illegible] more
formidable. [illegible] [illegible] [illegible]
thousands [illegible] [illegible] [illegible]
[illegible], but for the intervention of the
[illegible] [illegible] [illegible], stopped
that [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] with [illegible]
[illegible], [illegible] [illegible] [illegible] [illegible]
[illegible] the [illegible] of [illegible] [illegible]?

[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [

ing after wounds or injuries the app-
earance is generally thought indicative of
tetanus. The most common period of the
appearance of the disease in the trau-
matic form is during the second week.
We have some cases on record in which it ap-
peared in a few hours or days, and in others
not till the lapse of some four or five after
the infliction of an injury. Dr. Robinson
relates a case of a negro servant in the
West Indies who scratched his finger
with a piece of broken plate, and died
of tetanus in a quarter of an hour.
Sir B. Brodie relates a case in which it took
place a month after the infliction
of the injury. Larrey's experience
during Napoleon's campaign in Egypt

puts the period of accession, as a general rule, at from five to fifteen days.

Pathological Lesions. There is but little in the dead subject to give light upon the pathology of this malady, it being impossible to discover any traces of disease either in the brain or spinal cord. Some [illegible] authors report lesions of inflammation and effusion in the membranes of the brain and spinal cord. But may not these apparent lesions be rather attributed to the [illegible] of the [illegible] and chord, than to any morbid change [illegible] in them. The [illegible] within the [illegible] of opening the cavities of the cranium and vertebral [illegible] be performed, would

under the [illegible] of [illegible]
But [illegible] would [illegible] [illegible]
[illegible] to [illegible] [illegible]
[illegible] of the disease

Theory

[illegible] appear as
[illegible] and [illegible], in
different cases, many of them being
merely accidental, [illegible] or
[illegible] alterations, [illegible] consequently
[illegible] to attempt [illegible]
[illegible] of the disease. [illegible]
[illegible] [illegible] to
the data afforded by [illegible] of
the [illegible] [illegible] [illegible]
although [illegible] [illegible]
[illegible] the [illegible] of the disease [illegible]

been made, but until the cause of darkness which we observe the physiology and pathology of the nervous system have been disposed, all must remain in confusion. But little doubt exists that the disease has its seat in the spinal cord and medulla oblongata. The stupor of coma and delirium forms the close of disease in the fourth of the brain, and the instant cessation of the pain in a muscle upon division of its communicating nerve from sensation of its action at the muscle in the epileptic fits. Nothing that [illegible] of nervous influence [illegible] the [illegible] of [illegible] and

[illegible] irritation, [illegible] great [illegible] at-
the [illegible] [illegible]
[illegible] [illegible] excitability. This
irritation [illegible], propagated from
the injured or wounded [illegible], or from
other remote causes, [illegible] from the di-
[illegible] of the spinal cord itself
through connecting [illegible] of nerves,
etc. This irritation thus excited extends
to the nerves of the [illegible] muscles,
and produces spasm in the same
manner that spasm [illegible] produced
[illegible] by irritation of the cord
[illegible] instrument. Speculating
the [illegible] and [illegible] [illegible]
[illegible] [illegible] [illegible] of the
[illegible] [illegible] [illegible] [illegible]

[illegible] conspicuous irritation of the spinal cord in man kind. This appears to be rational, and we are not relieved in our opinion by Dr Nelson's [illegible] of irritating the spinal cord in the instance of a decapitated frog. Surely, they [illegible] a broad view of the pathology of tetanus. It appears to me that the tonic spasm which characterizes the disease we are considering, may be caused by a morbid condition of the spinal cord, irritating the nerves belonging to it. In the lockjaw irritation, [illegible] through, [illegible] the course of the incident nerves, [illegible] isolated

[illegible] in [illegible] a
[illegible] or takes place, [illegible]
[illegible] influence is exerted
[illegible] the muscles and the motor nerves;
[illegible] negative and re-
[illegible] through [illegible] and
[illegible] of the motor
[illegible] of lighting. [illegible] corresponding
with marks of the instruments [illegible]
should, in all cases, be left for the
[illegible] more than can [illegible]
the [illegible] of the prepared [illegible]
[illegible]."

[illegible] that [illegible]
[illegible] of [illegible] and [illegible]
[illegible] of the [illegible]

tanus definition we conceive is, that it consists in an unnatural excitability of the spinal cord, through which it produces spasm of the voluntary muscles, a spasm which is increased by slight impressions on the sentient or excito motory nerves.

We shall now proceed to give what appears to be the most rational treatment of this formidable malady, in this I shall be guided by the experience of [illegible] and distinguished heads. [illegible] formida[illegible] the [illegible] treatment, and many writers deny the curability of true traumatic Tetanus, Dupuytren [illegible] mind, [illegible] [illegible] [illegible]

and unskillful treatment, the
means hope that should be brought to the
relief of medical science. It
the disease in the difficult form
magnetism of life, and the credit
is given to the remedies administered
which have effected without influence
in the final result. The indications
people be as follows: 1st To remove any exist-
ing source of irritation; 2nd To lessen the
susceptibility of the nervous centres to
any irritating influence which may ex-
ist; 3d, To diminish irritation by bracing
nervous excitement, and to support
the patient's strength. The treatment
should be local and constitutional
To fulfil the first of these indications

we must examine the wound & if there be one and remove all foreign substances, which may be a source of irritation. If the irritation depend upon worms or irritating matter in the intestinal canal, they must be removed by suitable remedies. Often by removal of the source of irritation we may avert an attack of the disease. Cataplasms containing narcotics, as Sulph. Morphia, Opium or Chloroform, should be applied to the wound, and by their anodyne influence will tend to diminish irritation. Liston recommends an incision, in order to cut off communication with the spinal cord, when the nerve has been partially injured, contused, or lacerated. This has been said, to have proved effectual in some cases. Division of the

main nervous trunk leading from the wounded part, Amputation, &c, have been recommended; but they must be resorted to before irritation has been set up in the spinal cord, or we can hope for but little benefit from such measures. Purgation is indicated at the very outset of the treatment. The accumulation of fecal matters should be removed at the very beginning of treatment. Some brisk purgative, as the Comp: Cathartic Pill, Sulph. Magnesia & Senna - Castor oil, &c should be administered, Croton oil is an excellent cathartic where great difficulty of deglutition exists. The bowels, after thorough evacuation, should be kept open by mild cathartics or

Enema. Worms in the intestinal canal are often a source of irritation, and should be removed by suitable Anthelmintics. The second indication is to lessen the susceptibility of the nervous centres. This is accomplished by free exhibition of narcotics. Opium is reported to have been successfully tried in many cases. The liquid form, or Tr. Opii is generally used in doses of from gtt xxx to LX every two or three hours, until it produces its narcotic effects. Enemata containing Sulph. Morphia or Tinct. Opii may also be administered. Sulph. Morphia has also been applied epidermically & hypodermically. But there is in this disease an extraordinary insusceptibility to the

effect of this drug in Tetanus. Enormous quantities have been given, and enough solid opium was found undissolved in the stomach, by Mr Abernethy, to have poisoned a dozen healthy persons. We should therefore always give it in liquid form, and never in the excessive amounts which have sometimes been administered

Cannabis Indica or Extract of Indian Hemp has been highly recommended and many cases of recovery have been attributed to the use of this remedy. The only disadvantage is its uncertain strength, which should be previously ascertained by its effects, It has been recommended in doses of from grij to iij every half hour, to be gradually increased until it

previous narcotism. In a case of Traumatic Tetanus, at the Baltimore Infirmary, during the session of 1863-4, Prof. Smith prescribed it in doses of gr x of the extract to the evident relief and benefit of the patient. It relieved the pain and diminished the spasm. In another case, during the same session, in which it was used by Prof. Smith, it checked the approach of the disease, and the patient speedily recovered.

Stramonium, Belladonna, Conium Alcohol, Chloroform, & Other have also been recommended, and recoveries have been attributed to their influence

The third indication to diminish nervous irritation, is met first by seda-

tives, and secondly by rectives. Infusion of Tobacco, (℥ss in ℔ss boiling water), injected into the rectum, has been spoken of as beneficial; but this remedy must be used with caution on account of the great depression which ensues. Tobacco has also been used in bath and cataplasm. If prostration ensue from its use, we should counteract it by stimulants.

Digitalis, Hydrocyanic Acid, and Aconite have also been used, but they are also powerful medicines, and should be cautiously administered.

The optimal application of Belladonna for its sedative effect has been successful, or, at least so reported.

Blistering and stimulating friction

along the spine, as revulsive measures have been resorted to with reported success.

When the strength, from excessive muscular action begins to give way, supporting measures become all important, When the pulse is feeble, and evidences of weakness appear, in any stage of the disease, stimulant and supporting remedies are required. Alcoholic Stimulants, as Wine Brandy, Milk Punch, Animal Broth, &c, are to be employed. Tonics such as Quinine and the Preparations of Iron may be beneficial

There is great difficulty in feeding the patient, and generally they can take nothing but Liquids, being unable to

swallow solid food. Beef tea, animal broths and nutritious soups may be introduced into the stomach by means of an elastic tube inserted behind the last molar tooth, into the nostril, or through the opening of a lost tooth. Nutritious enemata will also be useful. Soups & broths may be injected into the stomach when deglutition is impossible.

All of which is respectfully submitted by

Milton S. Lawrence

of Maryland.

An
Inaugural dissertation
on
"Circulation of the blood."

Submitted to the examination
of the
Provost, Regents & Faculty of Physic
of the
University of Maryland,
for the degree of
"Doctor of Medicine."
by
J. Pleasant Harrison
of
Maryland.

To the
Faculty of Physic.

Prof. Nathan R. Smith.

Prof. W. E. A. Aikin.

Prof. G. W. Mittenberger.

Prof. Richard McSherry.

Prof. Christopher Johnston.

Prof. Samuel C. Chew.

February 14th 1803.

"Circulation of the blood"

Prefatory remarks.

The custom has prevailed in the University of Maryland from its foundation to the present time for each Student of Medicine whatever his endowments or deficiences, to express his views upon some medical topic, or in other words, write an essay for the inspection of the Faculty as a preliminary or one of the conditions to the attainment of the object of much labor, I mean the title of "Doctor of Medicine".

From the performance of this time-honored regulation - whether useful or not - I shrink, not from a desire to appear captious, nor from a disposition of fault-finding; but from extreme diffidence & want of confidence in my ability to produce anything of interest to such a company, or indeed to express even

a new idea. My position here is that of a student endeavoring to grasp the difficult knowledge of the medical profession as unfolded to the mind by the different professors of the various chairs. That I can add nothing new to the vast & already well-explored field of Science upon which I am about to tread, is perfectly well known to each member of the Faculty. That I can bring to the consideration of reasoning minds any doctrine or theory involving matters hitherto uninvestigated by searchers after hidden truths is not expected even by the ignorant; And that I am unable to penetrate the cloudy mist that obscures, & look beyond into an hitherto unexplored recess of Medical Science, admits of no argument & needs no denial.

The field, within which my thoughts are unchained & allowed to roam in quest of a subject for dissertation

tion, is endless & presents every variety of topic. yet strange to say they are so hackneyed & well-worn by those who have preceded me in their visits to its precincts. that the question of "upon what shall I write" at once arises & is difficult of solution. The arguments in relation to each, pro & con: cause the warm blood to flow more rapidly in its natural channels. and in the midst of uncertainty my wavering mind dwells with grateful feelings upon my circulatory system. & I ask — what is circulation? how is it produced? for what purpose &c &c. The question is thus solved. & begging the indulgence of my professors. & the patience & forbearance of my readers. I enter upon the consideration of my subject —

"The circulation of the blood."

By circulation is meant that function by

which the blood, the great source of nutrition is supplied to every portion of the body by means of appropriate channels. The distribution of nutritious fluid is generally spoken of under the name of circulation of the blood & the various organs & vessels by means of & through which this is accomplished constitute what is known as the vascular system.

To William Harvey mankind is indebted for first unfolding the great doctrine of circulation more than two centuries ago. He it was, who, I may say, first opened the window to man's heart & peeped into the wonderful secret which was soon to be disclosed to the contemplation of the admiring & scientific world. & was he who first traced out the course of the blood through the winding & tortuous channels of the [illegible]

noted the changes therein produced in its onward journey, & returned with it to the great centre of all circulation in animals, which we recognize as the heart.

While speaking thus highly of the immense additions to scientific knowledge made by Harvey in the hitherto confused state of public opinion, & of the all-important facts, the development of which we owe to his clear-sightedness & brilliant mental endowments, do not let me appear to disparage for a moment, or underrate those vast intellectual achievements of such great minds as Galen, Servetus, Fabricius, & others who, for so long a time, electrified & held spell-bound the astonished & admiring multitude by their strange doctrines. But these & others who flourished at or before

this important epoch of medical knowledge we recognize great lights in our professional sky. "For years & years. Galen riveted the attention of all those who had "eyes to see & ears to hear" his clear & incontrovertible exposition of the laws governing & controlling the circulatory system. It was scarcely possible to meet with one who did not acknowledge the Galen belief & that individual who was found skeptical enough to gainsay the popular sentiment that prevailed with such remarkable unanimity was deemed an idiot or else heretical, & often too often condemned to the severest punishments for his temerity & made frequently to suffer all manner of indignities.
Be entirely absorbed had persons [illegible]

this subject, & to such a pitch of prejudiced partizan feeling arrived, that persons were not unfrequently seized & burnt at the stake who were suspected of holding opinions contrary to those of the established faith. Galen had acquired such a firm grasp upon the minds of the people, that they were willing, may indeed did accept his "ipse dixit" if I may so express myself - without argument, without investigation, without question. It was amply sufficient to be told that "Galen said so" to gain for any opinion or theory that he promulgated the unqualified belief & support of all readers & hearers. He was a wonderful man & scientific genius, but with all, he, more than once, promulgated doctrines for

from the path of truth; & instilled into the minds of his blind-followers principles entirely at variance with those mighty and beautiful facts which - though as yet dormant - were soon to be hurled with irresistible power upon the astonished world by that genius of learning, Harvey, whose boldness of character, accuracy of judgment, & convincing arguments stamp him a man possessed of those peculiar endowments of nature, genius, ingenuity, talent and intellect. The minds of the people, during this interesting epoch, were exceedingly harassed by the conflicting theories which issued so abundantly from the pens of numerous writers: and long did they withstand the resistless shafts invented &

Galen belief by Servetus & others of that day. Many popular errors prevailed & distracted the minds of the people, & assisted in producing that state of confusion & disorder that existed to such a wide extent. Among these errors may be mentioned one, that for a long time occupied the masses, which supposed that the "arteries were filled with atmospheric air"; and another, promulgated by Galen, that the "veins carried blood to all parts of the system, instead of returning it." Hence those vessels received the name of arteries, from an erroneous impression & misapprehension of facts. The first error was, however, conclusively exploded by Galen by means of positive proof afforded by experimenting ... it

arteries with the ligature & lancet; And thus was this error made to give place to others equally absurd & pernicious to the advancement & development of truth. One of these erroneous doctrines, Servetus, a native of Aragon, endeavored to confute, sustaining his arguments with the most convincing eloquence, and maintaining his ground, almost solitary & alone, against the disciples of the established faith. But men's minds were yet too weak & too imperfectly developed to throw off the cloak of fanaticism, bigotry, & ignorance, and grasp the one which he extended; and as a proof of the insanity & superstitious ignorance that then prevailed — if one is needed — I may relate though with much [illegible]

that this master spirit was seized & condemned, upon a long series of charges & specifications deemed heretical, to be burnt at the stake; which foul & iniquitous sentence was carried into execution by the infuriated followers of Calvin, & no doubt with his connivance, if not instigated by him, in the public squares of Geneva on the 27th day of October 1553. And thus inglriously set one of the brightest stars that appeared above the medical horizon at that period.

To enter into a minute description of all that is entertaining & absorbing during this period, would require a vast deal of time & space, which this brief sketch will render impossible. Enough is

world at large is so much indebted to Mr Harvey for his detailed investigation & sound doctrines, a word in relation to him before I close my remarks on this portion of the subject, will not be deemed super fluous or out of place.

William Harvey was born in England on the 2d of April 1578. At the age of 19 he traveled through France & Germany, and, hearing of the reputation & learning of Fabricius one of the professors at the medical University of Padua, determined to proceed thither & commence the study of Medicine. This he accordingly did, & it was here that he imbibed the first principles of his profession from the teachings of that great master. He, some time after returned to England, and at the

was appointed Professor of Anatomy & Surgery at London. The following year he laid before the world the discovery of the circulation of the blood. The Sixteenth Century was a noble era in art & science. It was during this period that many of the greatest masters of poetry, sculpture, & literature flourished, and many wonderful discoveries as that of Cook's artillery, which changed & lent new grandeur to the horrible art of warfare, were made.

Certain facts relative to the circulation indeed existed, but they had, hitherto, remained rude; vague & unsolled. "It is," in the language of Prof. Johnson, "the great glory of Harvey that he brought [illegible] Chaos, that he held fast to truth [illegible]

carefully sifted & made his own, and that he established this truth by experiment, & practically discovered the most beautiful phenomenon of the animal economy."

"To the microscope we are indebted for the direct demonstration of this beautiful fact, but unfortunately Harvey did not live to witness it, departing from the scene of his labors & usefulness at a grand old age; yet, his name still remains with us & will ever continue green & fresh in the memory of untold millions.

"It was thus about the middle of the 16th Century, that the circulation of the blood was first announced; but its real discovery as a practical & substantial [illegible] the starting point of modern [illegible]

was reserved for the great Englishman, William Harvey in the beginning of the seventeenth Century" (Prof. Johnston.)

From these general remarks on the early history & discovery of the circulation, I will now turn to the consideration of the circulatory apparatus, which consists of four different parts, in each of which the movement of the blood is peculiar & dependent upon certain & special conditions. It will, therefore, be necessary, before I proceed further with the subject, to study each of these parts separately, viz: the heart, arteries, capillaries & veins.

As the heart occupies such a prominent & important part in the living tissue, as well as my subject, I shall dive

at some length, since the circulation proper depends, to a great extent, upon that organ for the performance of its progress through the system. The heart is a hollow, muscular organ enclosed by a membranous sac, called the pericardium. Its structure & that of the large vessels connected with it, varies considerably in different classes of animals. Its position is the left superior portion of the thorax. Its shape that of a cone, though flattened, resulting from its proximity to the tendon of the diaphragm. It is divided into four great & important cavities - two receivers & two propellers - for the performance of the offices of receiving the blood & returning it to the lungs, and again [illegible] it, after having been oxygenated [illegible]

throughout the system. The cavities are denominated respectively, auricles for receiving & ventricles for propelling the blood.
There are also openings in the heart, the most important of which are the auriculo-ventricular openings guarded by the mitral & tricuspid valves. These valves play an exceedingly important part in the action of the heart, and the least irregularity in their functions produces morbid changes in the entire system, immediate & probably vital.
The power of contraction & dilatation is eminently exemplified in this organ, its constant never-ending motion in this respect being termed systole & diastole. The heart in connection with the circulation is the seat of morbid changes & disease [illegible]

atrophy, hypertrophy, dropsy, & numerous other conditions involving structural & vital phenomena. The movements of the heart are attended with certain characteristic sounds which can be readily appreciated by placing the ear over the præcordial region. Of these sounds there are two, which follow each other in rapid succession, accompanied by a short interval of repose. These pulsations are of different lengths the first being the longest. If the whole interval from the beginning of one pulsation to the beginning of the next be divided into four equal spaces, the first two will be occupied by the first sound, the third by the second, and the fourth will represent the period of repose. The cause of these sounds is (if I mistake not) still under discussion and

involved in uncertainty, though it is chiefly due to the rush of blood through the narrow orifices of the aorta, pulmonary artery, & the auriculo-ventricular orifices. Dalton, Andry & others attribute the cause of the first sound to the closure of the auriculo-ventricular valves entirely, & in this opinion our Professor of Anatomy - Johnston - fully concurs. "The cause of the second sound is universally ascribed to the tension & closure of the pulmonary & aortic valves. "The first sound is generally dull & prolonged, while the second is sharp & short. It is estimated that each cavity can accomodate about two fluid ounces of blood, & there are about 72 contractions of the heart in each minute, so that, allowing for the retention of

blood in the ventricles at each pulsation, we find about 210 or 212 ounces of blood passing through the heart every minute.

This may appear on first view almost impossible. but experiment & positive proof have placed the matter beyond controversy.

The heart itself is fed or nourished by certain vessels termed coronary arteries.

Its absence in the economy of plants constitutes the all important & distinguishing difference between their circulation & that of animals. The distribution of the nutritive fluid or sap in plants, is caused in part by a power that is called "vis a tergo", but chiefly by a chemical affinity existing between the particles of elaborated sap & the tissues of the plant; while vis a [illegible]

it is caused primarily by the alternate contraction & dilatation of the heart. In animals of the higher order there are two separate & apparently distinct circulations called the systemic & pulmonic. These two systems convey the blood through the frame in two circuits which perform a journey resembling the figure 8. Each system, also, possesses its peculiar arteries or efferent trunks, & veins or afferent trunks crossing each other in the centre of the body, the heart, communicating also at their distant extremities. By means of the capillaries, by which are meant the smallest ramifications of the two systems anastomosing with each other & forming

is termed a plexus. "The circulation of the blood is closely allied to, & indeed dependent upon another indispensable function, that of respiration, which is performed by the lungs.
These two organs, the most wonderfully constructed in the body, are inseparably connected in action & entirely dependent the one on the other. "The smallest obstacles to the proper performance of the duties allotted to one, are immediately perceptible to the other, & prove detrimental to its peculiar office or action. In order to arrive at a full description of the distribution of the blood through the system, it will be necessary to be ... quainted with those vessels."

indispensably connected with & perform an active part in its transmission. Of these, we have the arteries, capillaries & veins. The arteries are the most important vessels engaged in the circulation; seated deeply in the system, & amply protected by strong, thick muscles to guard them from injury. They are possessed of three coats - an external which is cellular, a middle composed of muscular fibres, & an internal which is serous. The middle or muscular coat is endowed with the power of contractility which regulates the flow of blood to particular organs. The arteries commence by one large trunk at the heart called aorta, which gradually dim-

calibre, giving off in its course numberless branches, all of which at their extremities become very minute.

Their office consists in conveying arterial or oxygenated blood from the heart to all parts of the system.

They are likewise subject to inflammations & other disorders, and are provided with small vessels termed vasa vasorum for the purpose of affording them nutriment. At their distant extremities, as before remarked, the arteries are exceedingly minute, and here they are united by repeated anastomosing with each other & the veins. Hence they take the name of capillaries.

These are a network of minute

which afford passage for the blood from the arteries to the veins. They are so called from their small size, being detected & studied only with the assistance of the microscope.

The veins are generally situated more superficially, formed likewise of three coats & the same properties as the arteries, but not so strongly developed. The capacity of the venous is much greater than that of the arterial system. They take their origin from the small trunks formed by the capillaries & collecting the blood brought hither by the arteries, return it to the heart through three large channels - the ascending & descending vena cava. The circulation in the veins differs from that of the former in having i.

active power a "vis a tergo" assisted by the "vis-a fronte" the latter of which is due to the suction of the heart. (4) The lining membranes of the veins are not provided, like the arteries, with numerous elastic elements or fibres; therefore the movement of the blood through them is not dependent to any considerable extent upon the contraction & dilatation of these coverings, but is mainly due to the constant force of capillary circulation. In the veins, we find that the current of blood is much less rapid & regular than in the arteries, but they are, however, much more numerous & more voluminous, & have their valves opening towards instead of from the heart. (5) The flow of blood through these vessels is powerfully assisted by the contraction of the muscles, which act with much ease & efficiency by pressing

thin & yielding walls. (2d) Finally, there are several peculiarities which are deserving of mention. These peculiarities belong to the circulation in adults & are common to them all. The first to be observed is that of the pulmonary circulation, in which the blood is carried from the heart to the lungs through a tube whose structure is arterial, while it is returned to the heart as arterial blood, through venous tubes. The next peculiarity exists in the portal circulation, where the venous blood ramifies through tubes arranged like arteries & is obliged to overcome some slight resistance in the liver before it arrives at the heart. It is entirely independent of the pulsations of the heart, & unlike other venous circulations, has an organ interposed between the vein and the great centre of [illegible]

In the fœtal circulation we also meet with some remarkable differences in this respect. These consist chiefly of three - first: in the heart there is a direct communication between the two auricles by means of the foramen ovale; secondly, there is a connecting duct between the pulmonary artery & aorta termed the ductus arteriosus; and lastly, the ductus venosus, a supplementary vein situated at the liver & serving as a connecting link between the umbilical vein & the ascending vena cava. By reason of limited space afforded by these pages, & the necessary hurry occasioned by press of other & important duties, I must content myself with these exceedingly condensed remarks on these entertaining & voluminous points, which involve so much of interest, & and [illegible]

nent & attractive features to the study, and passes to the contemplation of the circulation proper; & this gives rise to certain interrogatories which are spontaneously suggested, & which are referred to in the early part of this review, namely: What is circulation? how produced? for what purpose &c &c?

By circulation we mean that office by virtue of which the nutritive fluid itself is distributed to the minutest portions of the frame. Its chief impelling power consists in the rhythmic motion of the heart; & it is required for the purpose of maintaining existence itself, by supplying the remotest organs with those elements which each requires for its nourishment. On being denied this aliment any organ would waste away & die as a [illegible]

animal would if deprived of its head.

The route of the blood in its circulation is wonderful, & commencing at the right auricle, where we will suppose the blood collected in its carbonized state, is as follows:

From the right auricle the blood passes to the right ventricle through an auriculo-ventricular orifice guarded by the tricuspid valve; from the right ventricle it passes to the lungs through the pulmonary artery.

On arriving at the lungs the blood undergoes numerous & important changes giving off carbonic acid gas, which enters into the composition of venous blood, & receiving oxygen from the atmosphere with which the lungs are filled at each inspiration. This exchange of carbon for oxygen constitutes what is call[illegible]

the aeration of the blood which is by this means rendered fit for distribution as nourishment. After traversing the innumerable ramifications of the capillaries lining the lungs it is collected by the pulmonary veins & transferred to the left auricle of the heart. Thence it is conveyed, through the mitral orifice, into the left ventricle, & thence, through the aorta, to all parts of the system.

In order to be more explicit & definite let us first follow the course of the blood through the upper extremity. On leaving the heart, the aorta gives off numerous branches, prominent among which are the carotids, one on each side, which pass upwards along the neck to the head, supplying it externally & internally; & the right & left subclavian which supply the

Having parted with its oxygen the blood now becomes carbonized, & being collected from the capillaries, it is returned through the jugular veins, which accompany the carotids, & from the subclavian veins accompanying the arteries of those names, & which assist in forming the common trunk known as the superior or descending vena cava; & by means of this channel it is poured into the right auricle of the heart whence it began. By far the largest quantity of blood is carried through the aorta the largest arterial trunk in the body, to the lower extremities. The blood, on being received into the left ventricle, is forced into the aorta, & through this tube it is conveyed throughout the lower extremities. In its course downwards the aorta gives off numerous branches

which have received different names according to the different organs which they are destined to supply, such as the liver, kidneys, spleen, stomach &c.

On reaching the fourth lumbar vertebra it divides into two great channels called the common iliac arteries. These pass down, one on each side, through the legs, where they receive the names of femoral, popliteal, tibial &c according to the position they occupy, giving off likewise branches of greater or less significance to supply intermediate parts, until they reach the feet where they terminate, as before remarked, in that minute plexus the capillaries.

The blood is now taken up by the veins which return it by one large common trunk, the

ascending aorta to the right auricle of the heart. During this transmission of blood through the lower extremities, it undergoes changes of vast importance, parting with its oxygen & other elements for the proper maintenance of health in all organs; & receiving from them in exchange certain impure substances the retention of which in the system would prove deleterious to health, & give rise to phenomena of grave importance. These impure & noxious substances are eliminated by means of the circulation of the blood, & the organs themselves are immeasurably indebted to it for its care & attention. The consideration of the blood itself, of secretion, absorption, nutrition & other functions might be legitimately

spoken of here in connection with the circulation inasmuch as they are embraced within the limits of the subject, & are all more or less dependent upon it for the performance of their peculiar offices. The subject of the circulation of the blood is indeed so voluminous & opens such a wide-spread field for the occupation of the mind, that one finds it a difficult matter to speak of & condense it into a compass so small as a simple medical treatise. Indeed as the thoughts are suffered to range over the field one is quickly lost in the contemplation of beauties & mysteries that appear endless & are constantly presenting themselves to please his fancy, engage his admiration, & excite his

applause. Well might the atheist be pointed to the tortuous channels through which the blood courses in its journey through the system & the minute & regularly marked out changes which it undergoes, as a resistless & incontrovertible argument proving the existence of that omniscient & "everlasting power" which he in his ignorance & blind folly dares to deny. And well too may the name of Harvey be dwelt upon with feelings of pride & veneration when it is so intimately associated & blended with its discovery and history.

In conclusion, let me beg those, who may accidentally peruse these humble pages, to reserve their criticism & reject

that the duty, imposed upon me, of writing these remarks, has been performed under many and trying difficulties attended with great loss by reason of arduous labors connected with the study of the noble & exalted science of Medicine.

An

Inaugural Dissertation

On

Respiration

Submitted to the examination

of the

Provost, Regents & Faculty of Physic

of the

University of Maryland

For the degree of

Doctor of Medicine

By

Robert F. Chapman

of

Maryland

February 14th 1865

Respiration!

Introduction

In compliance with the requirements of the faculty of our College which circumstance would commend itself to any well-judging mind, sustained by my own opinion of the benefit every student must derive from studying, minutely & in detail, some subject of a science, & especially one fundamental in its nature, I herewith offer to the consideration of my Instructors for the past two collegiate sessions an Essay on the Science of Respiration, beseeching their clemency & with the hope that my appreciation of the subject may meet their approval. With these introductory remarks I now proceed to the consideration of my theme — Respiration is that process by which the blood which has be-

come impure in its passage through the body is renovated by the absorption of the indispensible element of life, Oxygen, & the expulsion of the deleterious & destructive compound, Carbonic acid. The parts of the body over which the Oxygen inhaled & Carbonic acid expired pass, is called the "Respiratory System." This consists of, the Nares, Larynx, Glottis, Epiglottis, Trachea & Lungs. The lungs are principally concerned & are the seat of the renovating process. The trachea which conducts the inspired air to the lungs has the larynx at its summit, which contains the glottis & epiglottis, & is composed of cartilaginous rings. These rings are deficient behind one third their extent, which deficiency is supplied by the

trachealis muscle. The use of this muscle is to diminish the diameter of the trachea & thus regulate the supply of air, & assist in the expectoration of mucous which has collected in the pulmonary cavities. The trachea separates into the bronchi of the lungs, which are continuous with* of the same structure with the ~~trachea~~. The bronchi terminate in the ultimate bronchial tubes, & these in the lobules of the lung. The lobules consist of air vesicles held together by the parenchyma. The bronchi are at first cartilaginous; they then lose their cartilages & soon have air vesicles entering into them & become an irregular passage between the air vesicles, which end in "terminal air cells". These are small irregularly shaped cavities having four

or five unequal sides. The lungs are supplied with blood by the pulmonary artery, which ramifies into capillaries upon the walls of the air vesicles. From these capillaries spring two pulmonary veins which return the blood to the heart. The capillaries are so distributed as to project between adjacent vesicles & thus expose a double surface to the action of the atmosphere. The whole respiratory surface is calculated to be 1400 feet.
In the lower animals the respiratory apparatus resembles in some respects that of man & in others presents great dissimilarity. Aquatic animals absorb oxygen from water by gills, an arrangement similar to the mucous membrane of the lungs in other animals, & exhale carbonic acid.

then resemble ~~exter~~ externally the lungs ~~ex~~ internally. Salamanders have an air sack running the whole length of the body which contains the inhaled air & arterializes it, just as the lungs in the human subject. This phenomenon is accomplished by a process of swallowing & vomiting of the inspired air after it has undergone the changes peculiar to inspired air in the process of expiration. The respiratory process of frogs & serpents to a great degree resembles that of the human subject - in fact the difference is more in extent than in kind, inasmuch as both have the same divisions of the pulmonary cavity. In vegetables the product of respiration is just the opposite of that of the animals kingdom - the

former about Carbonic acid which they do during the day & exhale oxygen at night - thus the two support each other.
Every one must see & acknowledge that the Science of Medicine preeminently evinces the wisdom of God & the beautiful harmony & concord of nature. In all his ways we see reciprocal & indispensable usefulness of design - in nature, his handiwork, symmetry, embracing the ideal beauty of the speculative romancer & the practical matter-of-fact usefulness of him who regards nature only in the light in which it confers a benefit on the human race.
In the beautiful & complete mechanism of the human lungs we see the wisdom of God & his work, the symmetry of nature

proved. The inspired air is made to pass over an immense surface in a small compass & in this way become thoroughly subjected to the objects it is intended to accomplish; while in the respiration of plants, the reciprocal & concord relationships of God's works are manifest. The product of the respiratory processes of the animal & vegetable kingdoms are made to support each other; Oxygen is necessary to the life of animals; Carbonic acid to that of plants - if animals continued to inspire oxygen & expire Carbonic acid without any compensatory supply, ultimately all Oxygen must be consumed. But this Casualty is guarded against by the product of respiration in ~~plants~~ animals being made necessary to the maintenance of life in vegetables. So while animals expire Carbonic

acid which if retained would produce death, vegetables require this ~~poisonous~~ product, poisonous to animals, for their existence, & supply oxygen to the atmosphere. One of the components of the atmosphere as we shall see – the watery vapor – keeps the respiratory surface moist, without which condition respiration could not be performed. Yes verily the most ignorant & unenlightened can say, wonderful are thy works, oh God! but how much more the man of Science who makes it his object of life to comprehend them!!

It next becomes necessary to inquire by what means the act of respiration is accomplished & its attendant phenomena. The chest is expanded by the descent of the diaphragm & the action of the intercostal

muscles & air enters to fill the enlarged space, which must be occupied, else a vacuum would be formed, which nature abhors. The diaphragm descends pushing before it the abdominal viscera & thus occasioning the movement which is perceived in these organs during respiration, & extends the ribs on their articulation with the spinal column, while the intercostal muscles assist laterally by pulling the ribs upwards. The position of the ribs is oblique outwards & downwards. When inspiration commences the scaleni muscles fix the first ribs, then the intercostals acting draw the ribs upwards thus the expansion of the chest noticed in inspiration is effected — Inspiration & Expiration constitute the alternate components of respiration — the former is active, the latter passive, & while the former is effected

ed by the active movements of the parts just referred to & is to a certain extent both voluntary & involuntary, owing to reflex action of the ~~spinal~~ nervous system, the latter is performed by the return of these parts to their position of rest & the elastic nature of the fibres of the pulmonary tissue. Both of these attendant features of respiration though in themselves involuntary are yet capable of being affected by voluntary effort. The number of inspirations & the quantity of air taken in may be increased or diminished for a time by the will, while those of expiration, which are even less subject to the will, must be likewise affected. But after many respirations,

an unpleasant sensation is produced, which must ultimately put an end to this forced action. The normal number of respirations is about 18 per minute – the proportion to the pulse being about 1 to 4.

Even by the most forced expiration all air is not expelled from the lungs, & air remains in them after their removal from the body, which cannot be entirely expelled, except with the greatest difficulty – therefore normal respirations are requisite to change, if at all, that air which is taken in at each inspiration is called "tidal", & that remains after expiration, "residual".

Dr Carpenter estimated the inspired & expired air to vary 10 to 13 per cent of that contained in the lungs – it requires then 8 to 10 respirations to entirely change –

the air in the lungs. Two forces cause the inspired & contained air to unite: diffusion power of gases, by which the heavier & lighter gases displace & replace each other; & the movement of the ciliated epithelium lining the mucous membrane of the lungs. These cilia which compose this epithelium, like their motion throughout the ~~body~~ tube, move from below upwards, & cause a current in & out of the lungs — thus the air in the lungs is expelled & renewed. As the chest expands, the glottis does so, & is relaxed at the same time with it, which constitutes a "not one known as the respiratory movements of the glottis." Atmosphere when taken in the lungs consists of 21 per cent by volume of oxygen

79 of nitrogen, one half of carbonic acid, watery vapor according to the condition of the atmosphere, & other substances ~~of no~~ practical moment. When expired it has lost oxygen, gained carbonic acid & watery vapor. All excess of water is exhaled in vapor, by which the mucous surfaces are kept moist. This - the watery vapor - is given off by the pulmonary mucous membrane after being absorbed from the blood, & is condensed in cold weather. The expired air has a peculiar smell, owing to the animal matter exhaled, which constitutes the distinctive odor of the breath. The oxygen lost ~~is not replaced~~ is not replaced by the carbonic acid & watery vapor exhaled - Oxygen then constantly disappears & carbonic acid accu-

mulates. The proportion of oxygen consumed to carbonic acid returned differs in different animals, being greater in carnivorous animals than herbivorous, & is proportional to the functional activity.

Along as the air contains oxygen respiration will continue; but as soon as it is all consumed, asphyxia is produced.

Blood is changed in its passage through the lungs in color from venous to arterial, which depends upon the absorption of oxygen & removal of carbonic acid. The seat of this change is the red corpuscles of the blood. The corpuscles absorb gases — Oxygen & carbonic acid exist in arterial & venous blood, & all tissues contain a small quantity of these gases dissolved. The change in color

is caused by the globules which give color to the blood giving up Carbonic acid & taking in oxygen. This is shown outside the body by shaking together oxygen & blood in a vial; by the clot, which has now the color of arterial blood on the outside & is darker within, undoubtedly from the action of the oxygen of the atmosphere ~~acting~~ on that which is not accessible to it. Oxygen does not unite with Carbon in the lungs, as Lavoisier taught; & that in other organs combustion took place, like the union of oxygen & Carbon in a stove; for, were this the fact, the lungs would contain more heat than any other part of the body; which they are not found to do. Combustion is observed to occur throughout

the system. Carbonic acid is already formed in the venous blood & oxygen is absorbed by arterial. Venous blood is richer in albumen & water & also contains a greater amount of fat: Arterial has the same composition throughout the body & is the source of nutrition to the tissues. It is injected in another animal will not cause death - venous will - thus showing the poisonous effects of Carbonic acid. The interchange of gases occurs in the capillaries of the lungs. Venous blood comes to the lungs loaded with Carbonic acid, which it delivers off & takes up oxygen to replace the Carbonic acid given off; thus being changed

from venous to arterial. Oxygen is necessary for the activity & nutrition of the tissues - If its supply is cut off carbonic acid continues to be formed & accumulates in the blood & tissues, & destroys life by irritating the blood & by its poisonous effect on the nervous system. When the atmosphere is confined, oxygen is consumed & carbonic acid increased in the air vesicles, & prevents the escape of that which already exists in the ~~[illegible]~~ blood. Thus a threefold deleterious effect is produced by a deficiency of oxygen. By this means the action of the heart is arrested, though the effect on the two sides is different - the right side ceases to act from overdis-

tation; the left from deficiency of stimulus to excite action. If the cessation of the heart's action has not been too long it may be renewed by artificial respiration; for restoration of oxygen may revive the pulmonary circulation & thus relieve the distended right ventricle & convey to the left the stimulus of its action. The same effect is produced by an undue proportion of carbonic acid in the air. In this fact we observe the necessity of an abundant & constant supply of oxygen in ventilation for the preservance of health. How does carbonic acid originate in venous blood? It was at one time supposed to be produced in the capillaries of the

general system, & by direct union of the oxygen inspired with carbon of the blood in the pulmonary vessels - this was found impossible, as carbonic acid is already in the ~~lungs~~ blood before its arrival in the lungs. The generally received theory now however seems to be that carbonic acid is formed: In the lungs - The Blood & The Tissues. In the tissues of the lungs there exists an acid styled pulmonic - its production is analogous to the formation of sugar in the liver. The pulmonary tissue is permeated by this acid in a soluble form, which changes the carbonates of soda & potash of the blood into pneumates of the same bases, with the evolution of carbonic acid, which is exhaled. Claude Bernard showed this phenomenon

by injecting bicarbonate of soda into the jugular vein of a rabbit, when carbonic acid was evolved so rapidly as to cause instant death, by this poisonous gas accumulating in the lungs & throughout the circulatory system. In the ordinary process of respiration the blood arrives so slowly & regularly at the lungs, that as fast as the carbonates are acted upon, carbonic acid generated is exhaled, preventing by this means any bad effects upon the circulation - thus is instanced the wise law of nature, to strive to relieve herself of all the products of her operations which would prove injurious to a continuance of health, & it is only when some of her

functions are impaired that this condition is interrupted. In the blood — As the blood globules nourish the body by supplying it with oxygen, it is but reasonable to suppose they undergo wasting, as do the tissues, & require oxygen for their support, & thus by ~~their~~ its union with the waste matter (Carbon) produced carbonic acid. In the tissues — all organized tissues in a recent state absorb oxygen & exhale carbonic acid. This may be shown by recent frogs legs deprived of all blood continuing to absorb oxygen & give up carbonic acid. The union of gases takes place in the tissues mostly, & is there fixed & assimilated & carbonic acid principally developed. As the blood

yields Carbonic acid to the air & absorbs oxygen, so it gives up oxygen to the tissues & absorbs from them Carbonic acid.
We next consider the mode of production of Carbonic acid in animal tissues & its modifying circumstances. As was before stated, Carbonic acid is not formed by direct oxidation. In proof of this is adduced the observed phenomenon that animals & fresh animal tissues exhale Carbonic acid in an atmosphere of hydrogen or nitrogen & in a vacuum. How then does it get there? Oxygen is the element of life of all animals & animal tissues, so is that of decay. As Carbonic acid is produced, the result of the union of oxygen & carbon, it is at the expense of the

inherent life residing in the animal & its parts — so long as it contains oxygen it has life; when this is consumed in the production of carbonic acid, life is extinct. Thus, while carbonic acid is not formed by direct union of oxygen of the air with carbon of the tissues, it is the product of oxygen which is carried there by the blood to support life, with carbon their element of decay. The carbonic acid evolved by decomposition of the tissues is then taken up by the blood, carried by the circulation to the lungs & there exhaled from the pulmonary mucous membrane ~~in gaseous~~ form. More oxygen is absorbed than necessary to convert the carbon

into carbonic acid, which besides nourishing the different tissues of the body combines with the sulphur & phosphorus & other ingredients in its composition.

Some of the modifying circumstances in the production of carbonic acid are the following: Age, Sex, Constitution & development – also the time of day. From eight years old to puberty boys exhale more than girls – for males the quantity of carbonic acid increases till 25 years, is then stationary 10 years; diminishes from 40 to 60, after this period diminishes rapidly. In women carbonic acid remains constant after puberty till the cessation of menstruation; then increases till after

so, when it diminishes with age.
Pregnancy produces a temporary increase,
the same as in women when menses have
stopped. Development of muscular
strength also increases it – a strong
man exhales more carbonic acid than
a delicate one. Carbonic acid is greater
during digestion – also when awake than
asleep – during activity than rest: fatigue
& bad health diminish it; also alcohol &
anæsthetics, though they first produce
increased muscular effort, which diminu-
es greater elimination of carbonic acid.
Temperature also modifies it; more car-
bonic acid being expired in cold than
warm weather & more heat received by the
atmosphere is compensated in volume by cold

& contains a greater amount of oxygen in the same space, & thus a greater amount is inhaled at each inspiration; consequently a greater amount of carbon is required to combine with the oxygen, & a priori more carbonic acid is expired - the opposite of this is the case in warm weather. Carbonic acid is increased by greater frequency of respiration, though its percentage in expired air is less. If respiration ceases temporarily carbonic acid is temporarily increased, though not sufficiently in its total amount to compensate for the less air inhaled in a given time.

Respiration is partly a physical & partly a chemical process; the introduction of oxygen

is physical, the formation of Carbonic acid chemical. The gases are only in mechanical relation, which is shown by experiment. The nerves which preside over respiration, are the Medulla oblongata - if this is divided respiration terminates. Section of the pneumogastric nerve paralyzes the ultimate bronchial tubes, & produces congestion of the pulmonary vesicles, which gives origin to Emphysema of the lungs. Any impurities in the air or any disorder of the respiratory apparatus will cause numerous diseases, both general & local, which falls to the task of those who experiment those diseases to consider.

I might treat also of Cutaneous respiration, but enough has been written to show

all the justice to this highly interesting subject which my confined abilities & contracted knowledge will enable me to do. It only remains for me then, in conclusion, to make a cursory summation of the whole respiratory process: the anatomical arrangement of the respiratory apparatus is aptly adapted to its purpose — air enters the lungs, supplying Oxygen; this is absorbed by arterial blood; carried to the different tissues by this vehicle, when it principally unites with Carbon, forming carbonic acid & converting, in the lungs, arterial into venous blood. By this fluid it is carried to the lungs, in whose capillaries carbonic acid is given off & oxygen taken in — this process is affected by a number of circum-

stances & conditions which are treated of in detail in the body of my essay.
The whole object then of the phenomenon of respiration is to supply oxygen to maintain life, & to combine with carbon to form a vehicle for eliminating the waste matter of the tissues.

1865

Bowen

An
Inaugural Dissertation
On
Acute Peritonitis.
Respectfully Submitted
To the
Provost Regent and Faculty of Physic
For the Degree of Doctor of Medicine
By
Josiah S. Bowne
of
Marysville, Yuba County
California.

Dec. 5th, 1864.

Acute Peritonitis.

In treating of Acute Peritonitis, an inflammatory disease of the Peritoneum, it may not be amiss to review succinctly the situation of that great serous membrane in the abdominal cavity. Its office being to line that cavity, to hold securely in their places the various viscera situate therein without prohibiting entirely the motion and freedom necessary for the performance of their proper functions; also, to afford protection to said viscera in the discharge of their important offices. Disease, being [illegible] it does, the cavity of the abdomen, and [illegible] developing, either within or [illegible] viscera; also, maintaining the [illegible]

relations, one with another, by means of several prolongations or duplicatures, forming ligatures for the attachment of the viscera to various points of the abdominal parietes. We may best trace it, perhaps, by setting out from the Diaphragm — between that muscular septum and the liver. From this point it passes over the superior surface of the liver; thence between it and the stomach; thence round the latter organ, and downwards in front of the colon and intestines; then upwards beneath the colon, and so back to the duodenum; again forward and downward investing the small intestines; thence back to the vertebral column; again downward over the vertebrae, & finally between it and the bladder to form the

tonsical fold; thence over the bladder and
up on the walls of the abdomen lining
there, to the point of departure.

Thus we have the first great peritoneal cavi-
ty or sac. We may now begin again above the
liver, and passing downward again between
it and the stomach, enveloping the posti-
rior parts of these organs, and forming be-
tween them an opening — the "foramen of
Winslow" — thence round and beneath the
stomach, downward over the colon and in-
testines, and now reflected upwards over
the colon, forming the internal layer of the
great Omentum; it now passes backwards
to the Pancreas and Duodenum, [illegible]
upwards to the point of departure
in the second or lesser, [illegible]

The various folds formed by this membrane as it invests the liver, give rise to the ligaments by which that organ is held in situ: viz., the Coronary and Lateral ligaments. In its investment of the stomach it also forms the Lesser Omentum. It also, in its passage over the bladder and uterus, supplies those organs with ligaments. Thus we have the largest serous membrane in the human body forming, as it were, a sheet or net in which the abdominal viscera are packed. This, like all other serous structures, is particularly prone to take on inflammation under the operations of any great cause. Inflammation attacks [illegible] and this great membrane is

to transfer itself to adjacent parts, or to spread over the entire membrane. With such inflammatory action as are liable to have effusion, either of serum or lymph, or both and as the result of such effusion, adhesions.

The peritoneal cavity becomes obliterated, its parietes are glued together in part or wholly; thus effacing entirely this great cavity, just as we have adhesions of the pleura when attached by inflammation.

The causes giving rise to this trouble disease are those which govern all inflammatory action; such as irritation arising from disease of neighboring tissues, metastasis, obstruction of the

primae viae, external violence, as of
wounds and other injuries, ulceration
and perforation of the intestines, per-
mitting the passage of their contents
into this cavity, or rupture of the blad-
der with the escape of urine, or the
escape of bile into the sac; or again,
we may have a crisis of the disease
bursting into it and setting up fa-
tal inflammation; or it may arise
from paracentesis abdominis or other
surgical operations. The influence
of cold and moisture as another
fruitful source of this disease.
Again it may be on the character
of an epidemic during pestilence, es-
pecially in the wards of a hospital.

ital, causing contagious fevers and communicating itself from one to another, causing the utmost care and watchfulness to judge in and circumscribe its action and so prevent its spreading, carrying desolation in its train throughout an entire neighborhood. It may also be brought about by an injudicious or too hasty treatment of uterine diseases, the inflammation extending from the mucous membrane lining the uterus, to the serous membrane investing it, or by the passage of the lymphatics through the fallopian tubes into the peritoneal cavity, and a disaster to the structure, [illegible]

a case, it is marked by a strong depression of the powers of life, and [illegible] first [illegible] infest [illegible] the signs of [illegible]. It may also have it as the result of some of the low adynamic forms of fever, accompanied, as before stated, by ulcerations of the intestinal glands; perforation however, is not the invariable result. For we often have a result so different, produced by a conservative process, bringing about adhesions of the parts, thus warding off the danger threatened.

This serious malady, viz. inflammation of the peritoneum may visit alike the young, the middle aged, or the old. It [illegible] to [illegible] sex or [illegible] may be [illegible] and sudden in its [illegible]

[illegible] may approach by slow, in-
[illegible] steps, giving but slight warning,
[illegible] uneasiness.

[illegible] is generally attributed to
[illegible] of these parts of the mucous
membrane which do not [illegible] in the
[illegible] visceral viscera. Since it may originate at any point, and may extend over
the whole membrane. It may be either
Idiopathic, Sympathetic, or Symptomatic.
It may be severe and [illegible] Exceptional.
The variety arising from [illegible] of the
intestines is [illegible] distinguished by the
sudden [illegible] of the disease, [illegible]
origin from some particular [illegible]
[illegible] the [illegible] to the
[illegible] of [illegible] also, the [illegible]

tion of the case in doubt.

The symptoms are, acute pain of a burning, fixed character, with a sense of weight and distension; the disease usually announcing itself by rigors followed by fever, the pulse being at first hard and strong, but soon it changes becoming small, corded, frequent and feeble. There is an increased temperature of the surface, and a distinguishing feature of the pain is that it usually begins about the umbilicus and then radiates over the abdomen. There is also tympanitis, and an inability to lie the slightest pressure — even of sheets. It is also generally found in pressing the back with the fingers

thighs flexed in order to prevent pressure from the weight of the bed clothes, and to relax the muscular parietes of the abdomen. This position he is useful to maintain, as the one affording him the greatest immunity from suffering. The pain is aggravated by motion of all kinds; by coughing, sneezing, straining at stool, and by long or deep inspirations. He breathes is therefore quiet and shallow, the diaphragm being kept as much as possible at rest, as it passes in descending during each inspiration upon the intestines, so that in this tumor the respiration is carried on principally by the thoracic muscles.

These signs are always strongly diagnostic, and where we find this condition of the as with jaundice, acidity of urine &c., &c., we may safely determine that we have inflammation of the peritoneum to deal with. The pain is also much increased by the presence of flatus, distending the bowels and impinging upon the tender and inflamed membrane. As the disease advances there is considerable swelling and tension of the abdomen, occasioned by the effusion of fluid, and in part by congestion of the tissues. When approaching a fatal termination these symptoms increase; the countenance becomes shrunken, pinched and pallid; the [illegible] the abdomen [illegible] the surface of the body

These symptoms may [illegible] in many cases, and the [illegible] of bowels [illegible] added to them according as [illegible] viscera may be implicated in the lesion. There may be nausea and vomiting causing an increase of the distress, and rendering the sufferer's situation still more forlorn. The bladder may [illegible] cated, producing [illegible] of the bladder, [illegible] difficulty in the expression of the urine to the other difficulties. In the beginning of the disease, the urine may [illegible] is colored; the tongue [illegible] white fur; and the [illegible] shifted up. This disease may [illegible] [illegible] itis, and the diagnosis may be some

so difficult. In peritonitis the pain
[illegible]
[illegible]
[illegible]
[illegible]; more swelling and ten-
[illegible] the abdomen; a greater intolerance
of motion [illegible] avoidance [illegible]
thing less may aggravate the [illegible] nau-
sea and vomiting are less [illegible]
more [illegible] in the tissues. It
distinguished from the
[illegible]
[illegible]
[illegible]
[illegible]
with his hands to obtain relief.

It is distinguished from Hysteria [illegible]

[illegible] tenitonitis is

[illegible] more [illegible]

[illegible] instead [illegible]

[illegible] or of the [illegible]

disease is induced by the presence

[illegible] in the [illegible]

some [illegible]

[illegible] of the inflammatory [illegible]

[illegible] of the [illegible] in the [illegible]

[illegible] ity, when the [illegible]

[illegible] retardation is established, in-

[illegible] all before was danger immi-

[illegible] gantous.

When the disease proceeds le[illegible]

[illegible] days, he [illegible]

[illegible] called

vomitings, [illegible]

being [illegible]

[illegible]

[illegible] with life, in some cases,

[illegible] is at last-

[illegible] by death coming to the relief of the [illegible]

[illegible] the more deluding guise of over-[illegible]

[illegible]

[illegible] atment is chiefly of the antiseptic [illegible] necessary to [illegible] combat the injurious [illegible] dition of the [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible]tion, and preventing, as much

as [illegible] se. The benefit of blood-letting

[illegible]

[illegible]

[illegible]

[illegible] inflammation. [illegible]

[illegible]

[illegible] blood is [illegible]. [illegible]

ing, or to follow it up by covering the abdomen with leeches; after they have fallen off, to cover the bites with flannel wrung out of hot-water, or a soft poultice to encourage bleeding. Mercury is considered by many as the great sheet-anchor in this disease: calomel in full doses being given (grs. x to xv) combined with opium (grs. ¼ to ½) after the use of the lancet — the blood-letting preparing the system for the action of the calomel — the latter allaying the gastric irritability and checking the inflammation.

If these efforts be not followed in two hours by an improvement, or should the pulse become contracted, or increase in frequency, with

increased pain, the blood letting may a
gain be repeated, but less freely and fol-
lowed as before by the calomel and opi
in lessened doses according to the then
existing symptoms. Some authors recom-
mend the use of purgatives, but their
utility is at best but doubtful; for
what may be gained by them as auxi-
liary logistic measures is more than com-
pensated by the increased peristal-
tic motion. It being highly necessary
to keep the patient in a recumbent
posture, and the bowels quiet a
possible, it is [illegible] that [illegible]
do [illegible] the initial condition of the
parts [illegible] in case of [illegible] the
motion must be more or less injuri-

cus, having a tendency to induce ulceration and cause the suppurative process of separation, when perforation is threatened.

We have a strong adjunct in the use of opium, the pain being kept at bay by it, gives the opportunity for repair. Some recommend the chloral in preference and opium in small and repeated doses till the mouth becomes tender, but not given with a view to severe ptyalism, but mercurial inunction is also resorted to, but it seems to me it is less efficacious to pile one medicament, after the administration of opium, upon another [illegible]

such as Oleum Ricini and O. Oliva with the fumigation Cannabis, or a combination of Wheat starch or gruel, and Ol. Terebinthinæ or Ol. Ricini. Flatulent-distensions may be relieved by the Turpentine Enema and by fomentations to the abdomen. Cold ablutions have been recommended also; but cold extensively applied to the trunk is somewhat dangerous, at any rate it should be guided by the feelings of the patient in its application, desisting in the use as soon as they become unpleasant.

The second indication is also best answered by prompt response to the means here indicated. [illegible]

[illegible] opii, cumula [illegible] fomentations, [illegible]
and flannel wrung out of hot water [illegible]
fed with turpentine and covered with [illegible]
silk to prevent evaporation. Besides [illegible]
tried when the lancet is no longer admissible, and the other means have failed, the gastric irritability, constipation and flatulence render the treatment more difficult. The nausea and vomiting may be assuaged by the carbonate of opii, creosote, [illegible] or acid hydrocyanic. The constipation is to be removed by [illegible] cumula [illegible] the treatment [illegible] and by fomentations. [illegible] [illegible] the utmost care and attention, with an [illegible] of opii [illegible]

tions bile-bland fluids should at first be given in small and unvaried quantities, such as farinaceous substances, jellies &c.; as he progresses, he may return to chicken, veal or mutton broths, beef tea, &c. rice and stale bread given with caution. The return to animal food should be slow and guarded, returning first to the milder kinds, and such as are less rich in fibrine, e.g. chicken, birds, &c. All heating and stimulating drinks must be rigidly avoided; the bowels are to be kept free and constipation avoided by mild aperients, as [illegible] the surface kept moist by promoting a normal [illegible]. The [illegible]

rible, and frequently fatal diseases. Its symptoms, and the best mode of [illegible] -
dysted to it, [illegible] and de-
pend upon us by the ruin of his con-
stitution.

3rd. Such is [illegible] and the
by

Josiah S. Bowen

An
Inaugural Dissertation
on
Glucosuria:

Submitted to the Examination,
of the
Provost Regents & Faculty of Physic,
of the
University of Maryland,
for the degree of
Doctor of Medicine,
by
Joseph T. Pindell,
of
Maryland.

February 1865.

Gentlemen and Professors:

I have the honor to submit for your consideration the following dissertation upon

"Glucosuria"

This term, known as "Diabetes Mellitus", is used to denote that functional derangement of the system, characterized, by an augmentation not manifest alteration, in the secretion of the kidneys. This changed condition abnormal, and first described by Dr. Willis, in the reign, of Charles II of England, consists essentially in the excess of secretion

matter — the diuresis, present, being incidental, and dependent, evidently, on the excess of this element in the circulation.

The sensible, and chemical qualities of diabetic urine, differ remarkably, from those in health. In the latter state, the urine exhibits a perfectly transparent amber-yellow colored liquid, exhibiting a peculiar, but not disagreeable odor, and having a bitterish saline taste. Its constituents, chemically, are usually water, urea, creatine, creatinine, coloring and extractive matter: the urates, phosphates, sulphates, and chlorides. The proportional quantity of these ingredients, is not positive, but approximates varying from one to one within certain physio-

as abundant, if not sometimes increased, beyond the healthy standard. The remaining solid ingredients are also found in the same relative proportions, though their absolute amount in a given quantity, be much reduced.

The quantity of urine, in health, is not less variable, than its composition. It differs with the amount of fluid ingested, and is influenced by external temperature, more abundant in winter, than in summer; after the use of cold, than of hot drinks, and, yet remains within the limits of health. The average passed daily has been variously estimated. In a healthy man without the operation of any extraneous cause, it may be estimated at

ing to Dr. Prout, at about thirty ounces in summer, and forty in winter, provided, the person in drinking, satisfies merely, the wants of nature. Women, generally pass less than men.

In diabetes however, the quantity secreted in twenty four hours, is often enormous, and disproportionate to that ingested. I have myself known, says Dr. Watson, twenty six pints; and also mentions, that cases are recorded, in which, seventy pints, and even two hundred, have been passed daily. The mean quantity in this disease is from ten to twenty pints per day.

The specific gravity, which, according to Prof. Carpenter, is mainly dependent, upon

the quantity of arotized solids, and aqueous fluids habitually consumed, is an important character in the various morbid conditions of the urine. This, like, the quality and quantity, is subject to many variations. Authors differ, in their estimate, of the natural standard yet, for diagnostic purposes, as given by them, it approaches accuracy, as near as the variable properties, of urine, will permit: In healthy persons the average, is from 1015 to 1025; in a diabetic patient, from 1025 to 1032.

Of the tests, most commonly employed, is that of Trommer based on the reaction of the salts of Copper, and is applied, as follows: - To the suspected

urine, add Sol. Cupri Sulphatis, in suffi-
cient quantity, to give it a faint blue
tint. Then add Liq. Potassæ in consider-
able excess. The precipitated hydrated
oxide of Copper, first formed, is redis-
solved in the excess of alkali, giving the
dark blue color of ammoniated copper.
By the application of heat, a deposit of
red suboxide of Copper, takes place, if
sugar be present.

Moore's Test, in which the sugar is
converted into a brown substance (me-
lassic acid) by means of an alkali, is
sometimes used. When a mixture of
nearly equal parts of the suspected fluid,
and Liq. Potassæ is boiled, in several
minutes, over a Spirit-lamp it will es-

some a claret color, of more or less depth, according to quantity of sugar present.

The test, by fermentation, though less convenient, gives a more certain result. Diabetic urine, like all other solutions, containing sugar, is capable of undergoing vinous fermentation; the sugar present, being converted, into the well known products of alcohol and carbonic acid.

General symptoms. These in the beginning are often very obscure — hence the non recognition of the disease sometimes, on the part of the physician, until after the lapse of months, it may be. The patient himself may be unconscious for some time, of any material departure from health. The first symptoms

that generally attracts any notice, is the tendency to frequent micturition, causing much disturbance in the night. This is followed by others, more or less uniform, viz: immoderate thirst, dryness of mouth and fauces, craving appetite, furred tongue, harsh and dry skin, costiveness, faeces solid, and free from moisture, urine much increased, and sweet to the taste, depression of spirits, debility and emaciation. Of the enormous daily drain, upon the system, as indicated, by the immoderate diuresis remain unabated the above named symptoms, not only increase in intensity, but other, if not equally, if not, more dangerous, leading ultimately to serious organic diseases, such

to death. Pulmonary affections, especially Tubercular Phthisis; Bright's disease of the kidneys, indicated by albuminous impregnation of the urine; organic affections of other structures, as of the brain, liver, and stomach may precede the fatal issue.

This disease may be acute or chronic. The latter, most generally comes on insiduously, often lasting for many years; or it may, under the acute form, run its whole course, in a few weeks, or days.

Causes. – These may be divided into predisposing and exciting. Under the former we may class, immoderate use of alcoholic spirits; long continued and a

cessive use of sugar; hereditary tendencies, with strumous constitutions; residence in miasmatic districts; excessive labor, joined with impoverished food; distress and anxiety of mind; and venereal excesses. With the latter, the drinking of cold water when the body is over heated; rheumatism; gout and the metastasis of eruptive diseases.

Pathology. The attention of the medical world, has long since been called, to this important subject, - yet we have to confess that its definitive settlement physiologically and pathologically considered, has yet to come. A number of hypotheses more or less plausible and ingenious have from time to time been advanced.

The kidneys were thought to be the great laboratory of the saccharine element. But these glands are now well known to be simply excretory and more efficient as mere depurators than producers of matters discharged. By these channels are drained away not only the impurities of the circulatory system habitual or accidental resulting from perpetual renewal of the organization, but any excess of its aqueous ingredient, and thereby becoming the great regulating valve by which the amount of fluid in the "life of the flesh" is preserved in due proportion to the wants of the system.

Another theory, and becoming more

Consideration, than the former, was that sugar, formed in the alimentary canal, during digestion, from the amylaceous elements of the food, instead, of being converted into other compounds, was absorbed by the blood, and eliminated by the kidneys. M. Claude Bernard, without contradicting this theory, discovered after elaborate researches, that sugar, was a normal secretion of the liver; that, in health, the sugar thus formed, passes through the hepatic vein, and vena cava inferior, to right auricle of the heart and thence to the lungs, by the pulmonary arteries, to be consumed. But when abnormally increased, this substance is eliminated by the kidneys, thus giving rise to

this disease

This theory, agreeing, in the main, with others of more recent date, requires possibly some modification.

The pathology, of this disease, having more or less, to do with the sugar, producing function as suggested, by Cl. Bernard, and others, it is of some interest, to inquire into the nature of this function, as seen in health, in order to the better understanding, of the serious consequences, that inevitably follow its perversion.

The double function of assimilation and secretion, has been assigned the liver: the production of sugar, by a metamorphosis, of some of its organic ingredients and

the secretion of the bile. That of assimilation, first discovered by M. C. Bernard as stated above, has been styled the glucogenic function and is believed, to be common to all species of animals. The saccharine matter thus produced, resembles bile in nature, and property, glucose. but is distinguished from it, and other varieties of sugar, by being more readily decomposed in the circulatory system. The formation of a substance styled glucogene, and presenting the character of hydrated starch, has been recently discovered to precede the production of sugar. Hence, this glucogenic function of the liver, consists of two distinct processes viz: — the formation of glucogene and

the subsequent conversion of this into sugar by Catalysis. This agent now formed, is ready, to be absorbed by the process of endosmosis, into the general circulation, there to be decomposed, and finally, become subservient to the process of nutrition. These changes, are supposed to consist in the conversion of sugar into lactic acid, which, in turn, decomposes the carbonates, present in the system, giving off carbonic acid and forming salts, known as lactates of soda and potassa.

We have thus traced very imperfectly the origin, and destination of sugar as found in health and have seen that instead of its being wholly consumed by the

lungs, it passes on to the general arterial circulation to disappear either in its course, or in the capillaries.

If the liver looses the power of generating animal glucose, which is intended, as has been shown, to subserve some important purpose, in the animal economy, and, in its stead produces some saccharine principle, other, than hepatic sugar, incapable of fulfilling the office of the latter, the disease, known as diabetes, is readily set up. Andral, in his examinations of diabetic subjects, favors this theory and infers, that this disease is owing to a peculiar congestive state of the liver, causing thereby an abnormal activity in its sugar producing function.

The different theories, plausible as they appear, are not wholly reliable.

The recent analysis of the blood, by Dr. Pavy, revealed the fact, that although the blood, collected from the right side of the heart, after death, contains a large proportion of sugar, yet when it is removed from the same part, during life, it shows but a trace. From this, we infer, that the conclusions drawn, with reference to the ante-mortem state from post-mortem examinations, must be abandoned. Therefore until further evidence be had, the pathology of Diabetes Mellitus, remains to be solved.

Prognosis. With regard to this there remains but little to say, in addition to

what has already been incidentally spoken of. - Sugar in the urine, is of fatal significance, and may justly alarm those who are the subjects of it. Though the prognosis be unfavorable, it is not necessarily so. Well marked cases have recovered perfectly. A moderation of excessive thirst, and hunger; the return of cheerful spirits; diminution of urine, in quantity and quality, with diminished density, all indicate the return of health. but on the other hand inordinate thirst and hunger; progressive emaciation; excessive dimness, are signs that threaten an unfavorable issue.

The physician, however should not be discouraged. If the disease be intermittent

to treatment in its earlier stages, there is hope of affording permanent relief. Otherwise, especially, if there be evidence of organic disease, treatment is considered of little avail, the disorder advancing by slow, or rapid steps, to a fatal termination.

Treatment. – Our knowledge of the actual nature, of the disease being limited, this must necessarily be faulty. In conformity, with its pathology, the indications are: – to prevent the formation of saccharine matter, by cutting off its supply from without, and thereby restoring the normal condition of the blood, and the defective power of the nutritive functions to diminish the excessive flow of urine which tends to impoverish the blood, and

contributes much to that emaciation, and debility so prominent as a symptom; and lastly, to mitigate, or remove all distressing symptoms as they arise.

A properly regulated diet, constitutes, by far, the most important part, of the treatment. Food and drink should be taken, in moderation, since an unwise indulgence in either, often leads, not only, to irritation, and oppression of the digestive organs, but often places, in jeopardy, the life of the patient.

The urgent and painful sensation of thirst may be appeased by weak beef tea, mucilaginous broths, pure water, water acidulated with phosphoric acid, or holding in solution carbonate of lime, milk diluted with lime

water; and if debility, wines containing no sugar or good porter, if not otherwise, contraindicated, and, moderation be observed.

The appetite being ravenous, excess in eating must be equally avoided.

The quality of food, is no less beneficial, and essential, than its quantity. The diet should not only be nutritious, but free from all saccharine, and amylaceous elements. An exclusive animal diet, long persevered in, has been found to be a powerful corrective of the morbid production of sugar, and the saccharine impregnation of urine; and also to have improved proportionally other symptoms viz: the state of the tongue and skin, the strength, weight, thirst, and appetite

different kinds of meat, poultry, fish, game and eggs, in their diversified modes of preparations, furnish a list for the patients selection. All vegetables, containing a notable proportion of starch, or sugar, as potatoes &c., with all kinds of fruit - should be strictly forbidden.
Dr. Garrod records two cases. In one, by regimen alone, the daily amount of urine, was reduced, in a brief space of time, from three hundred, and fifty four ounces, to one hundred, and the daily quantity of sugar, from twenty six fluid ounces, to less than four; in the other case, the patient being put upon meat diet, - bran loaf, cod liver oil and opium, the urine from two hundred and sixty

seven ounces, daily under the ordinary diet of the Hospital, sank in quantity in five days, to ninety-one fluid ounces, but, upon the resumption of the ordinary diet, it rose again to two hundred and sixteen ounces.

The medicinal remedies tried, and recommended for this disease have been many. The most important will be noticed.

Opium may be styled the chief-anchor, under its use the patient is comforted, his nervous irritability quieted, and other symptoms mitigated. Though it does not banish, it seems to control the diuretic influence of the liquor in the blood, when given in the form of

Pv. Ipec. et Op. from three to four grains several times a day. If the Ipec. be productive of any inconvenience, any other preparation of Opium may be substituted.

Methods for promoting the natural functions of the Skin, are considered as remedial measures to exercise a most beneficial influence — these are the hot-vapor, and warm water baths, friction and warm clothing.

The gastric derangement present in this disease, and considered by some a species of dyspepsia originates in a want of due gastric energy, hence tonics are indicated. The preparations of Iron are very suitable. ~~Steel to relieve the~~

Steel to enliven the Spirits, and repair the strength may be used, combined with Opium, or any other medicine as the case demands. The following prescription is recommended

℞. Potass. Bicarb. ʒij
Sp. Ammon. Arom. ℘ʒ ij.
Ferri Ammon. Citrat. ʒj
Infus. Columbæ ℘ʒ vi. M.

Sig. Take two tablespoonful, with half the quantity of Lemon-juice two or three times a day. This may be continued for several weeks, then discontinued, and recommenced according to the general strength.

The simple bitters are also used, if not contra indicated by vascular excitement, and inflammation. In some cases

Quinine, with Opium, one grain each frequently repeated, may prove useful.

To invigorate the assimilative functions, Oleum Morrhuae frequently does good. Creosote is also used.

The bowels in this, as in other diseases, require attention. Gentle aperients to regulate, and, not active purgatives, are appropriate.

Chapman P

1865

A
Medical Thesis,
Submitted to
The Faculty
Of
The University of
Md.
Feb 14th A.D. 1865.
By
Picard Chapman Jr.

"Phthisis Pulmonalis"

In fulfilling the requirements of our institution, we present to its faculty the following paper on "Phthisis Pulmonalis," but we are well aware, that we can not make add anything that is new; but that the want of experience in itself is sufficient to unfit us for treating accurately and skilfully a subject which time and study can only prepare us for: With this consolation we enter upon our proposed theme.

Phthisis Pulmonalis or Pulmonary Consumption as it is commonly called is a disease of the lungs, but by no means is it confined to the lungs as its epithet would seem to imply; but a wasting of all the tissues of the body. Phthisis from the Greek Φθειω "I waste away" as applied to consumption is used in a general sense, denoting a consumption of all the parts: Indeed it is the scourge of our race. The young as well as the old, the most beautiful and gifted, the mechanic, the farmer and merchant can

Equally subject to its ravages.

(4) Tubercle - Consumption is caused by the deposit of tuberculous matter; that is an unorganized substance generated by a deterioration or perversion of the blood; it is of a yellow color and soft in substance. This condition is found not only in the lungs but in the intestinal mucous follicles. It is the opinion of the profession at the present day that tuberculous and scrofula are owing to one and the same condition of the system.

what producers one may cause the other.
There are many theories as to where and how this substance is produced. ~~Cuticles~~ They are generally found upon the surface of mucous membranes and occasionally in areolar tissue.
Their form depends upon the place and condition of their deposit, as pressure has much to do with the form and shape of them. When the pressure is equal on all parts their shape is round and pointed, when

unequal they may be flattened into any figure.
After a certain time owing to increase of size and pressure inflammation is set up. They soften and suppurate. In this way the ~~cysts~~ are broken down as it is called and thrown off in the form of pus or thin mucus through the bronchi trachea and mouth. If this process continues unarrested the lung is gradually consumed away.
Morbid Anatomy - The upper and back portion of the lung is most liable to

interest. The right lung is more frequently diseased than the left. Upon their formation ~~of tubercles~~ scrofulous inflammation breaks down leaving cavities & excavations and bronchiae. This con-dition may not take place for a considerable length of time as, this ~~tubercles~~ may remain in a solid state for ~~a considerable length of~~ some time. These bronchiae vary much in size from a pin's point to that containing more than a pint of liquid.

Bronchial tubes are found to open into them but blood vessels travels as they are capable of being compressed and pushed aside, in which case they are congested and ~~forced~~ ~~forced~~ some distance from the point of obstruction preventing the escape of blood into these cavities, The Bronchial tubes not containing a coagulable substance are incapable of being stopped or dammed up as it were. When a number of these tubercles

are broken down by inflammation they are discharged with the air cells contained in them by expectoration: Previous to the discharge they act in carrying off the effete matter. The pulmonary tissue surrounding them is hard and firm. When these bronchiae happen one at a time they may be completely annihilated and if matter is not formed they will cicatrize: In this way we frequently see recoveries from adhesive or serous interlobular deposit, and we

doubt there are many cases of complete recovery from consumption. In many instances where tubercles are near the surface of the lung post mortems have revealed that the pleura was adherent with the ribs, most commonly found in the left lung.
Ulceration of some portion of the air passages is apt to supervene during the course of the disease, Louis found that this happened on an average of once in every five cases of phthisis attended in

the Pharynx, Larynx, Epiglottis or Trachea owing to the passage of tubercular matter over the parts. The Stomach and liver are apt to become involved: the brain has been found loaded with adipose tissue and in a waxy condition.

Forms – Consumption has more than one form; Latham divides it into two, viz. and tuberculated: but for the want of time we are compelled to pass them by without comment. Diagnosis Consumption is not, as more

or less than a scrofulous condition of the system, whatever cause may ~~excite~~ produce, the other, tends to depress the vital force and energy: It is a subversion of nutritive element, that is whatever deteriorates the blood and interferes with the assimilation of the food may light up the tubercular diathesis. Tubercles may remain in the lungs in their incipiency without cultural discovery if very small and devoid of the sounds of consolidation

and percussion may not
vary at all or very little
from the normal sounds.
In suspected phthisis we
give first to examine the
summit and back portion
of the lungs this being
most generally the seat
of the disease in its begin-
-ning. By auscultation
we can ascertain a generalized condi-
-tion of the expiratory sound
that is a long and prolonge-
-ed respiration, x and
percussion gives out a
dull sound with indistinct
breathing, rough respiration,

excessive resonance of the vocal sounds or unnatural sounds when the patient speaks or breathes we may feel quite certain that tubercles have begun their work. This condition may exist on one side only, or both sides, or may be more developed on one side than the other. Whether the lungs be solidified by tubercles or inflammation the auscultatory sounds would be very similar, the bronchial sound would not be present but

bronchophony would be very distinct. Percussion would produce a dull sound whether the lung be affected by hepatization or tuberculous matter. If the cavity or bronchia is filled with liquid we have a gurgling sound on auscultating if it be emptied we have the "cavernous sound" or hollow sound, this cavity being very large we have what is called "The tintinnic or tinkling sound the voice being unnatural causing pectoriloquy or sounds from the

chest, this sound within being of little diagnostic value as any solidification or inflammation may produce it: but cavernous respiration is of much value in diagnosing phthisis.

All of these sounds being present the existence of tubercular cavities may be quite certainly established. Hæmoptysis is one of the characteristic signs of consumption when it does not occur from injuries of the chest or diseases of the heart, it being one of the

most important distinguishing signs from Bronchitis and disease with which it is most apt to be confounded although Consumption begins in the upper and back portions of the lung while bronchitis falls generally upon the lower.

Prognosis - The exceptions of recovery ~~some~~ so very rare that its prognosis is extremely unfavorable. The general opinion seems to be that it is incurable. But Dr Flood remarks that "I am

not one of those who believe that phthisis is in all cases necessarily fatal" he adds that "tubercles are capable of undergoing favorable changes" as shown from dissection. He gives two instances of his own personal observation in which patients with all the symptoms of well marked consumption entirely recovered.

Duration - It would be difficult to form an average of its duration as tubercles may exist for a considerable time in a nascent or dormant state.

be have instances of from three weeks to fifty and sixty years in which it continued from the time of its apparent beginning. Some make six months others two years but we think from six months to two years would be nearer than either of the former.

Age Sex and Occupation seem to exert an influence over the disease. More die between twenty five and thirty five than any other period of life. Males are thought to be more predisposed

than females. There is but little doubt that occupation and condition have something to do with the development of tubercles such as produce irritation in the lungs and depress the vital powers, as sedentary habits: Stone cutters, Coal diggers and Steel polishers are peculiarly subject to its ravages. Contagion - many think consumption contagious and instance cases to bear them out in their assertions as might be said of, and ~~done in the same manner~~

other affection conceded by all to be incapable of conveyance from one to another. We think that it is not communicable under ordinary circumstances if at all so in this opinion we have the concurrence of Dr Watson one of the highest authorities who uses the following language "In my opinion the intervenular deposit can not be conveyed from one to another".

Symptoms - Consumption is characterized prominently by Cough, Expectoration

Hectic fever, sweating, diarrhoea
Hoarseness, Dyspnoea and
Haemoptysis.

Cough one of the first symp-
-toms is very slight at first
it is generally worse at night
and is aggravated by any
fatiguing exercise. It may
subside in the winter season
and be renewed in the following
summer; causing the patient
to entertain much hope of
his ultimate recovery
which is indeed one of
the characteristic features
of the disease the patient
always feeling that his health

is growing better. Cough
in itself is not much to
be relied upon as it may be
caused by various disturban-
-ces & disordered stomach
~~the~~ heart disease, Catarrh,
nervous disturbances &c
It may run its whole course
without cough. Expectoration
is by no means a valuable
sign in Phthisis, as any inflamm-
-ation of the mucous membrane
of the bronchi may cause
the secretion of mucus.
Bronchitis is not to be
mistaken for phthisis being
entirely different and the disease

as it shows by a bottle with Liquor Potassa which changes pus into a thick, stringy substance while it liquefies mucus. The sputa of phthisis is of a grey color "nummular" in form, so called because it assumes a flattened shape when spit into an empty vessel like a piece of coin. No form of sputa can be said to belong exclusively to phthisis as it may be produced in other lung diseases and it can only be relied upon when portions of tubercular matter can be seen in it. Hectic Fever

Louis found that nine in ten were not without this symptom: this being the case we may regard it as one of the most valuable diagnostic symptoms in phthisis: though it is not generally present until the disease has well advanced or is approaching its termination. It steals upon the patient as night approaches: usually begins with a feeling of chilliness, causing a dread of night and instead of being refreshed and strengthened by sleep is gradually weakened

This heat and burning is followed by profuse sweat towards morning and when it becomes very copious we may expect a speedy termination of the case, as these sweats are too drafting on the patient's strength and constitution to last for a very long period.

<u>Diarrhoea</u> - occurs most commonly in the last stages of the disease, it rapidly reduces the patient's flesh and strength. It is due to ulceration of the intestines, generally the smaller but sometimes the colon is diseased, i.e.

Mesenteric glands are sometimes much enlarged and filled with tubercular matter. The perverted condition of the digestive organs which prevents the assimilation of the food no doubt has much to do with the diarrhoea and increasing the diarrhoea. No doubt that extreme emaciation characteristic of the last stages of phthisis is partly due to the diarrhoea and profuse sweats. Oedema of the feet and hands is a common feature indicative of the failing of consumption.

Dyspnoea is of little value except when severe in which case we may apprehend that adhesion has taken place of the pleura with the lung. "Hæmoptysis" generally occurs at some period during the course of consumption; when no injury has been done to the chest or there is no disease of the heart we may feel quite sure that tubercles are present in the lungs.

Treatment - We can effect but little. aid from "Materia Medica" in the cure of

consumption be good among sufferings and under more mild harassing depletions. When Hygienic means have failed we have but little to hope for.
We should first seek to prevent the tubercular or scrofulous diathesis by discouraging all alliances with scrofulous individuals. By such precaution the ominous condition may soon be eradicated in those wherein it pre-existed in parentage. The individual thus freed from one

often escape its development by seeking a more congenial clime from the one fate has selected for him, that is a warmer and dryer temperature. Pure air, warm clothing, good and nutritious food, cleanliness of person, avoiding deep care and anxiety, all of which are no less beneficial and productive of the prevention of formation of tubercles.

Even when tubercles have formed and before the vital energies begin to give way benefit may be expected

from a change of habit* and climate. But little can be expected when disorganization of the substance of the lung has begun.

Although no climate is free from consumption yet we know that some are comparatively so. It has generally been supposed that consumption is more rare in warm countries; but statistics would seem to prove otherwise, indeed they would lead us to believe that it is more frequent than in cold climates. Indeed

deposits are brought about by impoverishment of the blood owing in a great degree to inactivity of the cutaneous functions as auxiliary to the lungs in respiration: this being established damp and cold climates are to be considered as favoring the production of tuberculosis. Physiological grounds; therefore cold and dry or warm and dry climates are to be recommended to phthisical patients.

The change of residence to a warmer clime during the

Winter months may prove beneficial by correcting the morbid condition of the blood. Finally the most suitable condition for consumptive patients is dryness of atmosphere and unchangeable temperature. Continued low temperature & altitude continued high.

The most important as a single remedy, probably alone and when combined, is cod liver oil, it seems to contain more fuel, these hydrates of nutrition which are deficient in the most of any other substance.

Dr Bennett thinks it acts by increasing the decinous principle; interested himself to excess of albuminous and deficient of decinous substances in the blood.
Whatever may be its modus operandi it certainly acts better than any remedy yet discovered.
Consumption must be treated according to its form and condition. As one would require a different treatment from another.
Cod liver oil, will sometimes prove beneficial.

Counter irritation and friction with Croton oil gives much relief as local applications. Iodide of Potassium has been much used with good results. When the symptoms have become much aggravated in the latter stages and every remedy failed, it is the Physicians duty to resort to such remedies as will best alleviate pain, Check night sweats, Colliquative diarrhoea and cough. Sulphuric Acid and Sumac in water to taste and tincture are well suited to check night sweats

Cough may be allayed by Cardamine, which also checks the diarrhoea. Hydrocyanic acid acts well in allaying cough and sweats. When the diarrhoea is extreme, Sulphate of Copper may be used with advantage.

Diet - It would be impossible to lay down a rule as to diet for phthisical patients, what might prove beneficial in one case would be injurious in another; but that regimen which is most nutritious and least apt to excite irritation

is best adapted to all cases. When there is predisposition to inflammation antiphlogistic diet must be strictly observed. Debility from insufficient food and nourishment must be corrected by Nourishing food such as farinaceous meats. Hot bread has been handed for consumptive patients. Milk and lime water will be retained by the stomach in last stages of consumption when most other nourishment would be rejected.

In conclusion we have

fact to order, that in treating the above subject we did not then hope or expect to enter into details, but to speak humble of the more unfortunate features of the disease. To do justice to a subject of which so much might be said, it would require more time and labor than other duties would allow, at the present.

Inaugural Dissertation
on
Cynanche Trachealis
Submitted to the examination
of the
Provost Regent and Faculty
of Physic
of the
University of Maryland
for the
Degree of Doctor of Medicine
by
Francis Rourke
of the
City of Kingston, Canada.
Session 1864. 65.

Croup

The civil physician in the course of his practice, varied as it is, meets with disease in many forms, but perhaps in none will he be so forcibly moved, and his sympathies enlisted as in this. In other diseases as those of adult life, or of old age, where hardship, want, or probably indulgence, and dissipation have been the cause, it can calmly reason, and concentrate with his practised eye, the progress, duration, and termination of the disease. But here commence at

at the hour of midnight to the residence of a fellow-being, he finds a gloom more oppressive than the darkness through which he passed, brooding down on this little household. Here is anxiety and trouble portrayed in every countenance. Here he sees the fond father with eyes fixed and face rigid with agony. Then he sees the young mother's maternal affection first awakened with all that exalted feeling which maternity alone can foster. But here as in the wrongs and impositions practised on a poor defenceless female, his common manhood would

be aroused in her defence, and he would strike for her protection; so here is something worthy of his greatest energies, for he sees not only weakness suffering, but that precious gem innocence, which will ever touch the heart of the generous man, and awaken the finest feelings of his nature.
Yet laying aside those feelings which might mourn over distress, but which also might weaken the nerve to save, let me collect from the experience of those noble stays of the profession, the simple facts which after the will of heaven

are most adequate to save.
Croup, may be defined an inflammation of the mucous membrane of the trachea or Larynx, or both, attended with spasm of their muscles, cough, dyspnoea, and hoarseness. Dr E. R. Peaslee considers it a "Laryngo Trachetis," and identical with this disease, whether occuring in the youth or in the adult, with this difference that the exudation concomitant to the inflammation in adult life, is disposed of by coughing and spitting, while in the child it remains, impeding the respiration, becoming purulent, or as is often the case,

organizing into false membrane.
Hence this disease may be divided into two kinds, the mild form, "Catarrhal Croup," which expectorates the purulent matter, and the other the organized "Membranous Croup." But since these diseases so often dwindle together, it is unnecessary to go into a minute description of both.
Croup is particularly a disease of early life, it makes its attack between the time of weaning and puberty, though there are instances on record where adults have been seized with it.
It is not contagious, but it appears

to be endemic, and it is asserted by some good authorities to be epidemic, it also occurs sporadically. The time of the year it prevails most in, is the spring, and fall, when the weather is most damp. It is said to be very prevalent in low places depending on the same cause; wet feet, exposure to the sea breeze, or to the night air, foggy weather, or undue care in changing clothing incline to it.

Like the insidious robber or assassin, who calling to his aid subtility, and perfidy, seeks the hour of darkness for the performance

of his nefarious act, and gliding along through gloomy lanes, and secret passages, watches the most favorable hour to seize his victim by the throat; so treacherously and insidiously at the silent hour of midnight, when all nature sleeps, does this disease make its invasion. The little patient awakens with a feeling of suffocation, and a coarse brassy cough. The face betrays intense anxiety and fear. He looks imploring at the by-standers, and with his little hands grasps at his neck, or thrusts his fingers into his mouth

as if to remove the cause of his suffering. He sits up in the bed and throws the head back to assist respiration. His piteous attempts to cry, are arrested by the violence of the paroxysm. Speech is hoarse and difficult. These symptoms are sometimes preceded for a few days by slight fever, cough, hoarseness, sleeplessness, suffusion of the eyes, and running of the nose. During the paroxysm the act of inspiration becomes prolonged, and is attended with a sonorous or crowing sound, but there is an absence of any

difficulty in swallowing. As the disease advances there is a great increase in the violence of the symptoms, the skin is hot, pulse rapid, tongue parched, with thirst, the voice sinks to a whisper, the breathing becomes more hurried and impeded, the cough more frequent, the pulse weak and irregular, and as a fatal result is very imminent threatening from suffocation.

I have said the disease advances to the third or last stage, the principle characteristics which mark it with the other symptoms, are

complete suppression of the voice, infrequent dry cough, and the efforts at respiration are heart rending to witness, the shoulders rise, the breast heaves, the nostrils dilate, and life may terminate after a convulsive exertion of inspiration, or the powers of nature gradually failing, and being exhausted, the skin becomes cool, and bathed in sweat, the cheeks pale, the lips livid, drowsiness and stupor follow, and death noiselessly trips along, and stamps his little victim with his cold icy hand.

But if on the other hand the

great despoiler has been arrested in his course, and forced to depart from his work of desolation, previous to the last stage, the cough, which was dry and hoarse, becomes loose and soft, and if the child is able to expectorate, some viscid mucous or perhaps concrete febrinous matter is coughed up, the breathing becomes less difficult, the voice more distinct, and in a few days the little patient is quite revived, and his bright eyes sparkle in apparent health. but this disease is liable to relapse. and great care should be taken

to guard against it on the night following. Its course is run in a very short time, generally from four to ten days.

Diagnosis. Croup may be confounded with Laryngitis, or Laryngismus stridulus, from the former, it may be distinguished from the fact, that Laryngitis seldom occurs in children, except as associated with Croup, and laryngitis does not give rise to the exudation of false membrane, but causes a fixed burning pain in the throat, from the latter it may be distinguished by

the peculiar ringing cough, ~~and~~ the fever, and seeming health during the intermission.

The history of the case, the impeded respiration, and the appearance of albuminous or fibrinous expectoration, serve to distinguish it from all other diseases.

Pathology. Sometimes there is redness of the mucous membrane of Trachea, ~~and~~ Larynx, and Bronchia, and inflammatory infiltration ~~infil-tration~~ of the submucous tissue, with viscid, and purulent mucus, adhering to, and blocking up the air passages, or there may be

small patches of false membrane, or the whole of the air-tubes may be lined with it, which may vary in depth from a thin film, to two or three lines in thickness. In its tenaciousness, it is also variable, sometimes it may be easily wiped off, at other times it can only be removed as a cylindrical cast of the bronchia, its extent may be limited to the walls of the larynx, or extend down to the minute ramifications of the bronchia, in chemical relations it is analogous to the fibrin of the blood, and is soluble in

in the Alkaline solution. It has been asserted by some that they have found an approach of this membran to organization, but there is no substantial evidence to prove that it has ever been found vascular. In death happening from suffocation, the body is generally of a dark hue, there are instances where none of the pathological signs were present, where death was occasioned by spasm. In this, like all other inflammations, there is a super abundance of fibrin in the blood, and thus may be deduced another cause of death, which begins at

at the heart, resulting from the formation of a coagulum, in this case, the lips are slightly blue, the body pale, the pulse irregular, and sometimes a blowing sound is heard at the heart.

Prognosis. This disease is always attended with much danger, and the prognosis at best must be doubtful, but it was much more terrible in former times. By one authority it is asserted that no less than four out of five of those who were attacked, used to die, and by another fifty per cent.

It is therefore not surprising, that parents and friends should with dread and anxiety, witness the approach of this disease amongst them, that they should fear for their little ones, that on being aroused at night, at the first sound of the brassy cough they should wail it, as the forerunner of the solemn toll of the bell, which may separate them from a darling boy, or a loving girl.
This may account for the cold wintry glance of the father, the blanched, blighted, and withered countenance of the mother, for

as they peer through the mist of future, they may see the portals of the tomb closing forever over the object of their affection. But thanks to zeal and persevering study, thanks to the advance of knowledge, this malady which was once so terrible a scourge, is now so illumined, and brightened by the light of science, that in the care of a dexterous physician, it is comparatively a mild disease. The termination can chiefly be determined from the condition of the child. If the lips are becoming blue, the pulse feeble, and intermitting,

and the little patient drowsy and comatose, we begin to despair. But if on the other hand the distress of breathing seems to remit, and free expectoration comes on, then we venture to hope.

Treatment. Perhaps in no disease is prompt treatment more requisite than in this, as the use of remedies in a very short time become unavailing. The physician therefore must act energetically, and quickly and draw from his laboratory of learning and experience, those elixirs, which will put in check the fell destroyer most speedily

or it will be too late. When the premonitory symptoms, such as a slight ringing cough, and catarrh are first noticed, the patient should be sedulously watched, and even then a course of treatment should be instituted. First a warm bath may be tried, then the patient should be rolled in warm blankets, and put to bed, the apartment should be kept moist, and at a moderately high temperature, an emetic composed of the tartrate of antimony and potash with ipecac will now prove serviceable.

But when the attack is sudden and violent, more active remedies are necessary. Bloodletting, tartar emetic, & calomel are the chief agents our reliance is to be placed on. This ~~course~~ kind of treatment in this, like many other inflammations, has its admirers, and those who stand antagonistic to it. Bennet and Todd rank themselves among the former, while Watson, Wood, and Hart, with a host of others, stand among the latter, whereas many of the physicians of the present day advocate a medium course of treatment, and many

assert, that there has been more children killed by tartar emetic than by croup.
Though such may be the case, we must not fall into the common error of discarding great remedies, because when unskillfuly used they produced bad effects.
There should be no hesitation in bleeding in bad cases, and in strong plethoric children.
In this disease bleeding produces its curative effect, in the same way it does in pneumonia, namely, by lessening the distress of the sufferer, by diminishing the

quantity of blood to be arterialized, thus preventing the great efforts of inspiration, and again by revulsion, reducing the inflammation. The quantity of blood to be taken is difficult to determine as the temperament, symptoms, and the effect produced, must be the guide, Dr Cheyne says "The removal of three ounces of blood from a child between one and two years of age, or of six ounces from a child from eight to ten, generally appears to make a sufficient impression on the disease."

It is selom necessary to repeat a general bleeding but if blood is required to be taken recourse may be had to leeches. However caution is requisite in their application namely that they be applied over the sternum rather than over the wind pipe since difficulty may be experienced in stoping the flow in this latter place. During the relief thus afforded we may avail ourselves of other remedies. Tartar Emetic. This medicine is recommended by Dr West to be given in emetic rather than in nauseating doses. It should be dissolved in hot

water in the proportion of a grain to the ounce a tea spoonful may be given every ten minutes until the desired effect is produced. Should the antimony act severely on the bowels it may be necessary to combine with it - a small quantity of tincture of opium. After the croupal symptoms have to some extent subsided we may try the use of calomel the administration of which has a twofold object that of preventing the formation of false membrane and giving a check or of hindering inflammation

of the lungs which is so liable to occur at this period of the disease. Though we may hesitate in giving mercury at first it may be used in the form ointment from the beginning it may be rubbed on flannel bandages and applied to the abdomen. Calomel may be given in combination with ipecacuanha to a child between two and five years old half a grain to a grain of the former with minute doses of the latter. A very good prescription is the combination of one to three grains of calomel with a quarter

of a grain of tartar emetic and from three to five grains of muriate of ammonia.
The warm bath often produces marked effects in the improvement of the patient and should not be overlooked.
Other remedies are recommended by many physicians in preference to those already mentioned.
Some like the sulphate of copper, and others the sulphate of zinc better than tartrate emetic for producing emesis, as they do not cause much depression, the yellow sulphate of mercury

was commended on account of its speed and certainty in action, while sanguinaria canadensis and lobelia inflata were at one time lauded so high that they were considered specifics. In the advanced stage of the disease, the stimulating expectorants, such as squill, or sinega in combination with carbonate of ammonia, may be used. Counter irritants are advocated by some authors, but the time when they should be applied is not clear.

We come now to the last —

remedy in this disease, namely, Tracheotomy, it is not my intention to refer to the many arguments deduced in favor of this opperation, and against it, it suffices to say, it is the dernier resort, and should only be had recourse to in extreme cases.

Thus terminates my thesis on this very dangerous and often fatal disaddy. I have neglected to say much which might be necessary to render it complete but even so, all the efforts I might put forth at best must appear

feeble and weak and far below the standard sufficiency, I have endeavored simply to collect the substance of our leading authors without attempting to enlarge or beautify and if my efforts do not call forth your approbation I hope they will not merit the severity of your criticism.

A Thesis
Upon the
Therapeutical Action of Alcohol
Submitted
To the
Provost, Regents and Faculty of Physic
Of the
University of Maryland
For the Degree
of Doctor in Medicine
By
James E. Mitchell
of Baltimore, Maryland

Feb 14th 1865

Stimulated action of Alcohol

Alcohol is the product of vinous fermentation consisting in the decomposition of grape or cane sugar into carbonic acid and alcohol. It is also generated when Ether the oxide of Ethyl, separated from its combinations comes in contact with water. Hence chemically it is the hydrated oxide of Ethyl. The different preparations vary in their percentage of alcohol from 20 to 55: and their purity may be known by the specific gravity which of the officinal one of the Pharmacopoeia is 0.835.
Its properties are limpid, colourless, volatile and inflammable liquid, of a burning

Tolu and of a pungent pungency taste.
One of its most remarkable properties
is that it has never been frozen. The
greatest degree of cold yet attained was
by the evaporation of solid Carbonic acid
and ether in vacuo. Its formula is
$C_4H_5O + XO$. Owing to its very strong affinity
for water may be explained its peculiar
action upon certain organic bodies, as
they part with their watery constituents
and shrivel up. Its power of absorbing
atmospheric oxygen and its antiseptic
properties render it a valuable agent in
the preservation of anatomical specimens.
It coagulates albumen, but dissolves the
organic and vegetable alkalies.

as regards its mode of action I shall speak of it in three ways. First the manner in which Alcohol finds its way into the system, and the organs or tissues on which its influence is most directed and for which it has the greatest affinity. Secondly the mechanism of its action upon the body, and thirdly the extent of its use as a therapeutic agent and the manner in which it may be employed as such. Now alcohol is taken into the stomach and immediately absorbed by the minute bloodvessels which ramify throughout every part of that viscus and in this respect it differs widely from any of the class of Hydro Carbons. For instance

the Oleo-resins in certain cases process
is necessary to their ready assimilation.
Not so with alcohol, for the whole fluid
the time this fluid by the rapid absorption
to which it is subjected, is carried throughout
the whole vascular system and thus accom-
-plishes the object for which it was intended.
It has been said that it acts by contact
with the extremities of the sentient nerves
but this is not so for we can perceive
the fumes of alcohol in expiration when
a large quantity has been taken even
on an empty stomach and again this
a remarkable fact that in cases where
there is great exhaustion of the system
and alcohol is indicated the lower

not occasioning the spirit to undergo certain chemical changes in the system and not passing out by the respiratory tract as alcohol. Certain physiological chemists have said that it does not pass through the system as alcohol proper, but is converted into an intermediate substance in the shape of aldehyde or acetic acid, and that very little was secreted by the kidneys, proven by the chromic acid test. This theory the only advocated by Bouchardat and Sandras is not received with entire satisfaction. Secondly the mechanism of its action upon the body and how it may operate as a poison

For my data I shall take the experimental researches of Hammond and Becker. They assert and prove very conclusively that as the free ingestion of alcohol was allowable to the nervous system that it acts in this way by preventing the too rapid disintermorphosis of tissue and so far as this action goes it plays the part of an aliment by affording to the organism a certain pabulum upon which to act and thereby preventing the too rapid waste of tissue. Carpenter in his Essay on Alcohol says that it prevents the elimination of substances from the blood vessels, but this opinion is not advanced based to my mind upon sound conclusions.

Dr Wm A. Hammond tried a series of experiments upon himself with three objects in view viz to see its action when the amount of ingesta was nearly sufficient to maintain the uniform standard; then to ascertain its influence upon a body which lost weight from deficiency of food and finally its action when it gained from excess of food. Now these experiments were carefully conducted from day to day and the results later taken. The quantity of excretions were carefully weighed. The carbonic acid expired in respiration, the aqueous excretion, the quantity of feces, the amount of urine and the quantity of its solid constituents viz the urea, chlorides, sulphuric and

the fibrinoid acids are soon diminished.
Now the addition of starch gum, sugar &c
at regular and stated periods maintained the
standard of health and obviated all those
unpleasant symptoms which in the absence
of a sufficient quantity of food would
have been so keenly felt; and upon the
same principle it acts when the body
loses weight from deficiency of food. Now
how can we explain this; if we adopt
the view set forth by Liebig that it acts
not making element and that it
forms with the oxygen inspired in the
evolution of Carbonic acid and in this
way takes the place of the tissues; but the
theory the food in itself is not fully con-

In the absence thereof conclusions proves I think that its action must be accounted for on the power which it possesses over bilious Metamorphosis and the consumption of fats; for the weight certainly increases in ratio with the diminution in the operation. And again its power over the digestive organs in enabling them the better to assimilate the food taken in. Then we must conclude that it acts injuriously when the amount of ingesta is sufficient to maintain the healthy standard and the different organs in each in the performance of their proper functions. Alcohol administered now shows its true toxical action in bringing about early degeneration of the tissues and

[illegible] specially acts for the action of it under [illegible] or topical dress is primarily upon the nervous system; but in the one case you administer it only to its transcendental effect and so far it works powerfully for good; but beyond this point its narcotic action is manifest and the continuance of its use will work incurable injury. It is put down in the books that in the poisoning from alcoholic intoxication you find the fluid effused into the particles of the brain upon post-mortem examination ignites and burns with a blue flame. This in my humble opinion I do not believe, having seen cases [illegible]

and no such effect resulting. The use of alcohol causes a wasting and degeneracy both of the gray and white nerve matter. I think then that in all the brain affections from this agent the symptoms are due not to congestion nor to inflammation but to a simple poisoning of nerve fibres and cells. "I think, therefore, we may discard the popular idea that alcohol causes inflammation, and that therefore, it ought not to be given in inflammations; when applied locally to the mucous surfaces it will inflame but when absorbed into the blood most of its actions upon the tissues to which it is intended to act is not inflammatory. In speaking of alcohol I allude always to some one of its

preparations for hypodermic use should never be taken internally. Having now laid down the topical effects of the bee and poison, also its mode of action; I will briefly refer to particular diseases and the different forms of disease in which this agent is applicable and in which it will be likely to promote the healing process by upholding the vital powers. From the remotest time the use of stimulants in acute Inflammations has been looked upon as hazardous and by some as mal-practice; but of late years as the study of Pathology has advanced, it has been proven that stimulants do not add to Inflammation when properly and judiciously administered.

They divided diseases into Sthenic and Asthenic and treated according. The two antagonistic schools contending that the difference in treatment now was owing; the one to a change of type in disease, the other that it was to an advance in Pathology. Thus they stood divided. But to my mind there is no longer doubt as to which of the two I should embrace. According to the statements of Bennet one of the ablest writers of the present day Inflammation is the same to day that it has ever been; and upon this ground I should not hesitate to treat it ~~not~~ according to the plan laid down by this high authority.

Now considering Inflammation as asthenic which is ably advocated by some of the most respectable Practitioners both at home and abroad I unhesitatingly would use this valuable means whenever there was any Inflammatory trouble attended or likely to be attended with great Nervous prostration as a type of this we take Pneumonia. This disease was formerly treated antiphlogistically and they considered that it was impossible to cure Pneumonia if the most heroic Practice was not employed. But of late the opinions of the Profession have undergone a remarkable change and now they scarcely ever bleed. For instance of this I saw in

The Infirmary last Spring a strong red faced, stalwart man entered with double pneumonia and it was decided that this patient should be treated with stimulants. He took an ounce of Brandy every 2 hours and the attendant supporting treatment. This case recovered rapidly and with but little diminution of strength compared with those treated according to the Antiphlogistic method. In my opinion you cure your patient sooner or at least as soon and you avoid the prolonged convalescence which otherwise would ensue. In typhoid it acts in the like manner by preventing the great nervous prostration which

follows this trouble. By the timely administration it obviates that tendency to the formation of abscesses which so often result fatally. Dr Todd says that he relies so much upon the use of Brandy in Phlegmonoid Erysipelas that he would be willing to treat all such cases with Brandy alone. This plan of treatment I saw practised in the Infirmary last spring with a most splendid result. In certain stages of delirium tremens there is no one agent upon which I would more rely than this; especially in that resulting from a long debauch; after taking doses of Brandy or Whisky the delirium calms and a sweet sleep ensues

The manner in which does this is by acting upon the nervous system and arousing it to action; but you must be careful to avoid its use to the effect of coma for it is by coma that the patient dies now this coma resulting from Intoxication can readily be distinguished from that as a result of disease.

Alcohol or some one of its preparations is an invaluable medicine in the treatment of Phthisis; in fact it does more good than any other means we can employ. It acts by preventing the tissues from fraying upon themselves and in this way aids in the supply of oxygen to the lungs and as I have said before owing to its great

for fat it aids in the due assimilation of this which is an all important accessory. Liebig says that it acts in Phthisis in the above way and by its heat making properties. I have seen it in the treatment of indolent ulcers several times and with good result; its mode of action may be explained by coagulating the albumen which is exuded and then forming a coat protecting it from atmospheric temperature and by absorption a sufficient quantity comes in contact with the sore to stimulate it to granulate. In fine in diseases where there is much prostration; discarding the idea that alcohol when taking effect Vasodilatorsets causes inflammation, I should use it carefully and be guided

by the symptoms. I would not as has been said give alcohol because there is inflammation but would be guided by the condition of the patient. Acute bowels have a tendency to recover of themselves and nature makes a great effort; but she requires the watching of a Physician to support when she flags and this support is most ready in the shape of alcohol. I trust then that this compilation of ideas ~~and~~ ~~from~~ collected from language reading and the result of observation during the last year or two may be received with many allowances; for tis not possible that the students of Medicine should in this brief term give forth any original facts; for Originality is a precious jewel.

Thesis

On the

Profession of Medicine.

Presented

To the
Faculty
of the
University of Maryland.
For the Degree

of Doctor of Medicine.

By

Harrison Hayes

in 1865 of Hookstown
Maryland

When the time has arrived, for the student to prepare his thesis, he is presented upon his conscript fathers, who are already distinguished for their varied acquirements: it embraces over the vast field of medicine, and it is with difficulty our whole I am sure many of you no doubt, have often experienced, and with which you are sympathize; I mean, the choice of a subject. The poor are but cannot say anything less than, but, what they have treated in their various lectures. Would be dear and they may be.

very hard upon his soul
that has been uttered from the
different chairs of each class.
He begins to feel now that the
time is drawing near, when
he will bid farewell, to his
College companions, and enter
a new field of duty. He
should then ever try to dwell
with faithful remembrance,
those good and truthful words
that have fell from the lips
of his noble professors who
have laboured constantly and
assiduously to teach him
upon the different branches
of medicine.

I wish to call your attention, for a brief space, to a few practical remarks on the Profession of Medicine. Our journey is now near to be ended, and an independent page in our individual history, to the past we can no longer cling; we have fulfilled its requirements; it has prepared us for new scenes and for different positions. What the future shall be, we cannot foretell to 'tell, He has long ago [illegible]

[illegible] in researches of the most difficult and important character. Our only responsibility has been that of improving our time and numerous advantages, so that we might discharge with honor and credit to ourselves, and with benefit to the community, the office of a practitioner of the healing art, that while we are engaged in the pursuit of science, while we are employed in adding day by day our resources to the great treasure-house of knowledge,

we have unwillingly lost sight
of the moment which should
introduce us to the exercise
of our profession, which
should transfer us from
the seat of learning, to be
witness of suffering, when
we will be called upon to
apply the principles which
it has been your object
to furnish us. If we look
back and turn for a moment
at the real position
in society of the medical
practitioner, we shall be
at nothing in the admis-
sion that we ought to be

and work of the ministry,
there is none more responsible,
or more generally appreciated by the community at large.
The intelligent, well-educated
high-minded, and above
all, conscientious physician,
holds a place scarcely inferior to Him to whom is
committed the trading
of the powers of nature. To
establish this, it is enough
to know, that under God,
he is intrusted with the
issues of life or death. He
has interests confided to him
which ought not with

embracing not only position,
but large emoluments.
Think him at the bedside
of a patient, in whom the
almost desperate struggle
between life and death
is raging. Think of the
importance of that single
life to a family who
are anxious witnesses of
the contest, think of the
unbounded confidence
reposed in his courage
by the patient himself,
in the agonizing, breath-
less intervals, with which
every look is pursued,

ency and weighed by a wife, mother, a father, and we will then begin to realize, it may never dawn on us before, that we occupy a position perfectly preventive, and more than ordinary responsible, We believe that a good medical practice is to be built up only by time and perseverance, that the young practitioner has a great many obstacles and quicksands in his path-way, and that he always strives to fill his sails with the favorable and fostering wind of

cannot succeed. The position to which we are trying to be admitted is a very calumnious one. If successful in obtaining the confidence of the community among whom we cast our lot, our professional duties will require so much of our time as to leave but little for repose and the ordinary social and intellectual enjoyments, which are so indispensible to our happiness. The physician, strictly speaking, has no time to devote to our professional calumniators;

even the rest and privilege of the Sabbath are often denied him, in the faithful performance of the duties due to his confiding patients, his exposure to storm and flood, and the extremes of atmospheric temperature, speeds that demanded by any other professional vocation. The physician enters upon a life singularly arduous and toilsome, involving cares and most painful responsibilities to individuals, and to society at large, he is doomed to sacrifice

hours for his station, there are not many vacations or holi-
-days for him; and night it-
-self is often turned into day; his
task is never done. The midnight
hour frequently finds him
winding his solitary way thro-
-ugh the depths of the forest,
crossing high mountains,
and fording swollen streams,
at the imminent risk of his
life. The life of a physician, rig-
-idly followed, is an active
one. He is much out of doors,
hastening from one bed of
sickness to another, his ways
-ness, other things being equal,

will be in proportion to his activity and the rapidity and effect of his movements. He is not to look forward to long of leisure time, and the luxurious pursuit of rows on rivers, after the wine on a summer's day, or with sippy-ing feet on the evening bank. The profession is one which will demand his constant and undivided attention. It is not to be pursued to profit with a half-heart. Anything short of a wholesome, complete and unwavering application will give partial and

unsatisfactory results; the advan-
-ces physical talent and opportu-
-nities are equalled only, however, by
the mental qualities which
every conscientious practitio-
-ner continually experiences.
The large number and vast
variety of diseases which the
practitioner is called upon
to heal, located in tissues
and fluids, the organs and
systems of organs of the body,
require the most intense
concentration of mind, in
order that he may make ac-
-curate discrimination, and
heal every case understandingly.

and only thus, necessary, the diseases undergo changes from the influence of climate, season of the year, age, sex and condition in life; through the impression made upon them by their various numerous and apposite causes, whether predisposing, exciting or proximate, and finally, the difficulties arising from the endless variety of remedies, modified in their effects by the type of the existing disease or by idiosyncrasy, all unite in perplexing the truly

conscientious practitioner,
and subjecting him to the
severest mental trials. The
passions of pestilence all
others may take wings
in flight and go to places
of safety, but the faithful
and true physician must
stand fast at his post of
duty. He dare not hesitate
to expose himself, night
and day, to the deleterious
influences of the insidious
poison, whether in the close
-ness tenements of poverty,
or in the mansions of the
affluent. He must be con-

[illegible] with suffering and death, which meet him at every turn. Bereaved widows and helpless orphans become daily objects of his solicitude and sympathy, and not unfrequently when worn down by his incessant toil, he falls an easy prey to the inexorable tyrant upon whom he has battled so faithfully and disinterestedly for the benefit of others. The responsibilities which the physician assumes are of the greatest character. He will be entrusted by [illegible]

ghor under circumstances
the most [illegible], the [illegible]-
-ding interests of the family cir-
-cle may center in a single
case entrusted to his care.
It may be in my child, a
father, or a mother, whose
spirit is oscillating between
life and death, a parent
would bring reproach within
the range of qualifications
conferred, and provision,
upon the thoroughly qualified
physician. How responsible
are his responsibilities!
even his best and most
successful efforts will not

always shield him from the
ravages of the unscrupulous
the ignorant or the intoxicated,
his motives will be question-
ed, his practice misrepresen-
ted, and some cases even
which may have been
successful beyond all
reasonable expectation, the-
ugh the malignity of
interested parties, may
subject him to suits at
law and induce his ruin.
The domain of medical
knowledge, is before him
stretching away in all direc-
tions. There is no limit to

attend, not to the subject which it produces, he should rather holding within its bounds, and among the fruits which not yielded so abundantly, he should never become weary in the noble work of gathering, and appropriating, and dispensing to others that which he has gathered, he has all science and art, and especially conditions, been attended; and then they must continue to spread, until the whole earth has witnessed the influence. The great object

[illegible] must be to ascertain truth. Thus he will become possessed of a vantage ground which will afford him delight, equalled only by his power. No pleasure is to be compared to that which springs from a knowledge that he is right, because truth is on his side. When sustained, he will view it a noble enthusiasm, in the acquisition of knowledge, and be inspired with the most cheering confidence in the practice of his

profession, learn, accomplish and through the battle, is the only true avenue to a worthy triumph. The career of the physician signalized by this, will exhibit an ever-advancing and ever-ending march, characterized by successive victories, towards a most glorious consummation. To be truly great we think it is not necessary that he should occupy what are considered the highest public positions in the profession, long ere he may become distinguished.

whether he occupies, by continuing steadfast and undeviating in his adherence to right principles, his with fearless integrity, and a character unsullied by unworthy actions, constitute greatness, even in the humble walks of life, without these elements of character he will never enjoy the good opinion of the wise and good, or the approbation of his own conscience, without the guidance of such principles, he will at once become from a serene [illegible]

whenever the truth is convincingly set before him, he will have too much manliness to adhere to any false position, and to be ready to express a manly regret, for wrong done, under the influence of error, when this is discovered. He gives expression to such regret always strengthens the heart and produces the finest and sweetest flowers of the character. Thus built up and sustained, is more valuable than life and all the best positions to life.

A man may pass through the world happy without wealth, talent or influence, but in the absence of character, his life is a mockery, a mock, a burden, a curse. The man of character is not easily moved by malice, so as to sustain injury thereby. His standing amongst the members of the profession, based not upon professional ability and worth, displayed constantly by rectitude of object and a most perfect integrity of aim, for may pass all the machinery of art and

pirace. He will thus establish a position in the profession of which his medical brethren will not be afraid, or can it spite their envy, whilst it is his duty at all times to strive earnestly and continually for the highest possible degree of attainment. The courage of the physician is often tested. At an instant warning he may be summoned to the most complicated operation in the whole domain of surgery, or he may be brought in contact with threatening maladies in which

not a moment can be lost to the safety, and where he must call to his aid the most powerful of medicinal agents. And he must do it despite the fear or entreaties even of interested friends, who tremble at the thought of the consequences which may ensue. He does it practically, perhaps leaving nothing to augur a favorable result, and yet prepared to meet the unkind taunts and opprobrious words of those who would refer the inclemency of the proximate power, rather than to the remote cause

had passed his victim before any adequate effort could be made to dispute possession. The skillful and judicious practitioner of medicine, although inseparable from scenes of suffering, is by no means inimical to cheerfulness. In the midst of such scenes he goes forward, far from all despondency, sustained and encouraged by an intelligent hope. His thoughts are occupied by the successful issue which his skill is about to confer. His knowledge of disease assures him that

[illegible] cures in most cases, and that [illegible] in the few that terminate fatally, he can assuage the intensity of suffering, thus cheered and sustained by success in healing the sick, the man becomes hopeful and cheerful by habit. His humanity and benevolence are elevated and gratified by success, and under its influence he enters the sick chamber with a confident expectation triumphantly dissolute [illegible] of it gloom. He realizes continually that he is engaged

in a great and good work, in the performance of which the cares and trials and responsibilities of life lose their force, like a constantly blooming fragrant flower, which blows in wide abundance along the path of duty, and enjoys to the fullest extent the enjoyment of a good. The physician, who labours in the cause of benevolence, by relieving human suffering, will be sustained by the wise, and receive the heart-felt gratitude of the good, the approbation of the physician, that we do

[illegible] together [illegible] its benefits upon suffering humanity. The posts of danger and of high responsibility, numerous and fatiguing as they may appear, mark the most honorable of all vocations in times of public prosperous. At these periods of public calamity, to hesitate not to expose and sacrifice his life, from motives of humanity alone, shed a [illegible] on down a lustre that [illegible] no triumphal arches in prospect to speak

his mother, a friendless orphan-
age, but the sun shining down
to relieve suffering and sor-
row, sustain him against
poverty, human agony and
the wail of the lonely, as
the incentives to the field in
which the philanthropist labors
and triumphs, he thus gives
work to aspirers and will not
fail to realize a degree of
moral elevation and ennob-
-ed happiness, which neither
wealth, station, or the gaze of
friends can secure for him.
The humblest philanthro-
thropist consecrates nothing.

through his consecrating fidelity and devotion to the cause of humanity, they attest a grandeur of character, and sources of self gratulation, which no man in mere power or wealth can boast. He was faithful, judicious, and courageous, and is worth to humanity a thousand times more than he who is exalted in the year of repetition, and popular applause by the use of others. Certainly this is honour and glory of the noblest and grandest character. The study of the

Profession of Medicine is truly one of no circumscribed limits. It reaches out on every side for materials wherewith to construct its stately edifice, and from which to dispense its manifold gifts of healing. No royal road will be found to conduct its votary with rapidity and ease to his goal of his desire, but with unwearied diligence, and with an unfaltering step, he must be content to pursue his upward march, adventuring himself of every means within his reach

to acquire the requisite degree of perfection. Among the various avocations of life from which we are called to make our selection, there is certainly none requiring a higher standard of moral and intellectual perfection than that of Medicine, so to be a thoroughly accomplished physician in this present age of mind development, involves no little degree of mental discipline. The great business of the physician is to minister at the bedside of the sick and suffering. When disease

lays its rugged hand upon its victim, there is an instinctive looking out for aid at the hand of the physician. Indeed, so much does he become identified with sickness, that the great mass of the people regard the practitioner merely in the light of a deliverer-plenipo. Little do they know, for how have they reflected, at what a cost of unwearied study and persevering application, or at what a sacrifice of pleasure, ease and comfort, if not too often of health, the d.c.

established these principles, and guided at these conclu-
-sions, which now enable him to contest with the fo-
-colin amidst the turmoil of disease, and con-
-fident in the correctness of his opinions, the posi-
-tion of our choice is one, however, which has its troub-
-s and its joys — its difficulties, trials and disappointments of various kinds and degr-
-s, as well as its pleasures and enjoyments. Of these, it may, too, not have been tou-
-ched with some of the

lest of men, and again ad-
-mired with the most illust-
-rious characters that have
ever shone on the page of
history. Bright and shining
lights in sciences, morals
and religion, in the public
as well as in the private
walks of life, We have labor-
-ed diligently for this the
profession of our choice,
for we believe with all its
arduous duties and respon-
-sibilities, it will yield a
recompense which some
starts out in bold relief
amid the dim fore-ground

of coming years. To picture
to ourselves the God-like
gratification of curing a
suffering the pangs of sense
the gratification of carrying
health and hope and consol-
ation where sickness and
despondency and sorrow
reigned. The gratification
to see the languid eye
brighten on our approach
and to hear the dispirited
voice welcome us with tones
of gladness as we entered
omnipotent to save. The
physician's reward is
not a base earthly one,

for if it were he would be
-fair of the attempt to make
it. He has duties to discharge;
a conscience to satisfy; a God
to whom he must account;
and he must take an eye
a view to these, instead
of the process, or discourage-
-ments which must be encoun-
-tered. He must take on
assured that he has the encou-
-ragement of the wise and
good, and that if treated on
fair ground, he stands
but in common with
the rest of mankind, who
have been taught by the

precepts of inspired truth,
to look beyond the present,
to the award of an omniscient
and impartial Judge.
We will now come like you
our noble preceptor, farewell,
and will look back to
the days of our Alma
Mater, where we labored
diligently to gain admis-
-sion into the
Profession of Medicine,
And to pledge to ourselves
that we have become
one of the benefactors
of Mankind.

An

Inaugural Dissertation

on

Pelvic Cellulitis,

Submitted to the examination

of the

Dean and

Faculty of Medicine

of the

University of Maryland

for the degree

of

Doctor of Medicine

by

Chas. A. Nelson

of

Maryland.

Baltimore, 1881.

Cholera Asiatica.

[illegible]

[illegible] and its kindred maladies. From statistics it appears that [illegible] of the deaths of England and the world are from these four [illegible] alone. It is the scourge of our race [illegible]

[illegible] generally warned of its approach while [illegible]

[illegible] preparing the way for the accomplishment of noble and [illegible] results [illegible] to do in providing the diathesis upon which the future development of the human [illegible].

What a [illegible] contribution to science and humanity it would be to discover some means by which to control this time [illegible] [illegible] [illegible] which [illegible] time beyond the reach of [illegible] [illegible]. [illegible] to hope that the [illegible] the investigations of scientific men [illegible] [illegible] [illegible]

much has already been done towards the accomplishment of this happy result.

The existence of fibrinous formations depends primarily upon what is termed the plasmous or albuminous diathesis. This is believed to consist essentially in a morbid condition of the blood. The exact nature of this morbid condition is not thoroughly understood. The opinion entertained by many eminent pathologists is that the fibrin of the blood is in excess in the solids of the body, the blood corpuscles [illegible] in the blood.

[illegible]

cannot be positively determined.

With good reason we suspect that in [illegible] in which it has been to have existed. Generally its existence is manifested by certain [illegible] peculiar character. The skin is thin ~~and~~ soft, pale and easily distended. The [illegible] large — upon generally the [illegible] with long silky hairs. The [illegible] are soft and flabby. [illegible] find the head large and the face [illegible] light color — the skin [illegible]. Children in whom this diathesis [illegible] generally distinguished by [illegible] of intellect, [illegible] tions and lively imagination.

Neither one of these signs [illegible]

[illegible] of [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] will be
developed; but this opinion is
connected with a knowledge of the
existence of tubercles in the [illegible]
[illegible] is sufficient to [illegible]
[illegible].

The deposit of tubercles in [illegible]
[illegible] of the body is the frequent result of
[illegible] which we have seen
[illegible] and other diseases in the
[illegible] [illegible] [illegible] [illegible]
bronchial tubes of the lungs. This [illegible]
[illegible] [illegible] [illegible]
[illegible] of the [illegible]
[illegible] of Consumption, tubercu-
[illegible] [illegible] [illegible]

is variously styled. The tubercle is deposited like granules in a fluid form, subsequently becoming the cell-walls forms an enclosing hence tubercle.

The shape is usually round but not necessarily so. It may assume a different shape when not deposited in the cell-walls and the formation is caused from different conditions, as when its development commences in the ramifications of the bronchi; also it is found in branches of cylindrical shape.

The stroma of tubercle must be mainly met with in the interspace of a yellow color, shape and size the consistence of cheese; united to

very much resembles. It is the most

appropriate name corresponding to

vital changes take place in it. The

disease is only seen when the local

malice is depleted, and so

the constant addition of the nutritive

constituents of the blood.

By this process it continues to in-

crease until like any other foreign

body it starts inflammation in the

tissues which may be called the

accidental cause. This inflamma-

tion is of the connective tissue, which

is characterized by this nutritive

fluid. By this fluid the tissues are

and secretion of the [illegible] tissue

is the result; which gives a cause=

communicates to the larger bronchi through which the softened tissue finds its way to the trachea and is expectorated by the mouth.

Heavily excavation or vomica now occupies the place formerly occupied by the tubercle. These may be according to the time of their development the rapidity of the ulceration of the surrounding tissue and the size & number of tubercles producing them. Large cavities are more found in the lower lobes of the lungs while at times they may be very large in the upper lobes. Tuberculous ulceration sometimes forms a secreting membrane by which these excava-

lions are found. These frequently have calcareous matter is deposited around them which sometimes the process of ulceration, breaking down the walls until large excavations are formed and the formation of the lung destroyed.

These large cavities are usually of irregular shape and have ragged with them are a few bronchial tubes. Sometimes the bronchi are not broken, a cyst is found surrounding the cavity, but more frequently they are broken & open the vegetations blood vessels remain.

It is a rare occurrence for a considerable hemorrhage to be caused by ulceration of a pulmonary

immediately into the cavity, but when it does come fatal consequences is the result. These cavities contain after the liquefaction [illegible] of [illegible] furnished by the surrounding tissue, the broken walls and a small quantity of blood which came from the capillaries.

The pulmonary tissue surrounding the cavity is generally solidified from being the seat of previous inflammation. There are two ways in which natural cicatrization may take place with a happy result. The first is when the walls and surrounding pulmonary tissue are not the seat of further tuber

[illegible] deposit (which is merely the [illegible] after being [illegible] of [illegible] contents, [illegible] [illegible] a cicatrix. The [illegible] [illegible] the place of the former [illegible] [illegible] this fortunate change could be [illegible] found on post mortem examination in the lungs of those who [illegible] during life the existence of pulmonary [illegible] cicatrices by [illegible].

The other favorable change which sometimes takes place when the disease is not of long [illegible] is the absorption of the [illegible] fluid of the contents of the cavity and the [illegible] of the cavity [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

may contain pus in the larger bronchial subdivisions and be then found to exist in the lungs of the dead.

The most frequent seat of tuberculous deposit and subsequent ulceration is the back part of the upper lobe of the lungs. This is almost invariably the case — so true is it that it is of much value in making our diagnosis.

Pneumonia almost invariably has its origin in the lower lobe, in the common inflammatory affection of the lungs. It is also a fact of some importance to remember that the left lobe is much more frequently affected in children than

the

the night. This probably happens in three cases out of four.

The change which we have been heretofore considering as taking place in the lungs is the incipient pathology of phthisis pulmonalis; but it is an error to suppose that this formidable [illegible] is entirely confined to the organ. It is a constitutional disease, of which the local symptoms appear in the lungs. [illegible] [illegible] that [illegible] [illegible] and [illegible] [illegible] [illegible] [illegible] we admit that it depends upon a morbid condition of the blood which is conveyed to all parts of the system. During the progress of the [illegible] the

heart maintain about its normal weight which is owing no doubt to the increased action of that organ.

The different viscera of the abdomen undergo marked changes. The intestinal glands especially the aggregated ones are often the seat of tuberculous deposit where they soften and the ulceration is sometimes extensively carried on. The mesenteric glands are enlarged and softened. Two different enlarged conditions of the liver are sometimes met with from the progress of the disease, — one termed fatty and the other the waxy liver.

Duration. — Owing to the insidious nature of phthisis it is [illegible] only [illegible]

and chronic. The acute is vulgarly called galloping consumption, it differs from the chronic in other respects than the time of its duration. It commences suddenly and runs it course rapidly. The general symptoms are more strikingly manifested than the chronic form. This may exist permanently or set in during the existence of the chronic.
By its rapid march it may terminate fatally in from a few weeks to as many months.
Chronic phthisis is necessarily variable; ceasing at times for a few months; again for ale or a lifetime. It is difficult to

[illegible]

its duration, for it may be found
without accepting it by [illegible] by a
both opposition. The average du-
ration of it however has been found at
two years by many writers.

Causes. - By far the most com-
mon predisposing cause of Phthisis
is a hereditary tendency to it. It is
also transmitted from parent to child
and often appears in both parents,
the child should only be considered
from the causes which factor the dis-
eases children. It may [illegible]
the generation and be developed
in the child. Any of the debilitating
influences may predispose the child
to it because of their creating the con-

dition of system upon which the in-
tive development of the disease depends
may be termed, predisposing causes.
Among these may be enumerated
long exposure to cold and damp
atmosphere, poor diet, sedentary
habits, mental anxiety; in short
anything producing debility.
The exciting causes are more nu-
merous. Prominent among them
are pneumonia, pleurisy and the
frequent existence of rheumatic dia-
thesis. These develope the disease
by the inflammation they produce
in the lungs. Phthisis frequently
originates [illegible] [illegible]
the existence of one of these

disease. Bronchitis is often a pre-
[illegible] and sometimes an exciting
cause. Frequent and violent exertion
of the lungs may be named in bringing
on an attack; while those engaged
[illegible]
[illegible]. The inhalation of irritating
particles and powders by produ-
cing inflammation of the lung tis-
sue may be placed with this class of
causes. [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
Phthisis or predisposed to it.
We are [illegible] of the [illegible]

[illegible]ptibles by constitutional or general [illegible]

[illegible] condition, [illegible]

[illegible] natural [illegible].

Early Symptoms. [illegible] cough [illegible]

[illegible]

[illegible]

[illegible]

[illegible]

[illegible] of these [illegible]

[illegible]

The cough [illegible]

[illegible]

[illegible] to excite the patient's alarm,

[illegible]

[illegible]

at night, early in the morning and when the patient makes any exer-

[illegible]al expection. A chronic cough may exist without phthisis, but when a dry hacking cough persists without any apparent cause it is suspicious to erode fear. The complaint may exist and terminate fatally without cough — this is unusual.

The expectoration attending this cough differs ~~[illegible]~~ at different stages of the disease. At first it is mucous gradually it becomes mixed with purulent matter. The sputa most characteristic of phthisis is in round grey masses, resembling tapioca. When [illegible] a day warfare they become circular in shape and distinct from each other.

If blood-vessels be made containing water, some of these seem to be in-
lets, others, according to the ex-
contained in the vessels, fall in
other words, remain at different
depths. The thickness of the thin
of blood is about an infinitely gre-
tion of the surface of bubbles. The
of blood in bubbles, the
of gas. It is a capillary of great value.

When blood is not in the vessel of
blood, it is a capillary of bubbles.
and, then will the vessel be filled
blood, when it is in bubbles.

Observations of the effects of
[illegible]

nally by a [illegible] [illegible] [illegible] and [illegible] [illegible], or employed [illegible] liniments and applying their [illegible] influence, and [illegible] [illegible] [illegible] of the [illegible] the [illegible] [illegible] [illegible] [illegible] [illegible] of a favorable termination, though most frequently this favorable change exist but for a short time.

Oppression [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] that the quantity of blood is diminished by the insufficient [illegible] [illegible] [illegible] [illegible] sweats. Patients often contrive themselves and friends by drawing a deep breath; believing that they would not be able to do so did the

[illegible] and, [illegible] more or less however during the course of the disease and in [illegible] total [illegible] of [illegible] attendant.

The night sweats which and [illegible] the hectic fever, are often so copious as to cause the patient to avoid the approach of night. [illegible] [illegible] [illegible] but are [illegible] [illegible] [illegible] [illegible].

[illegible] [illegible] [illegible] if not [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] the patient [illegible] and [illegible] [illegible] [illegible] [illegible].

Physical signs. These are not reliable in the beginning of the disease, but towards the end of most consolidations of the disease advance not only in determining the extent but also the progress of the disease.

The best and most reliable sign of consolidation is dullness on percussion. This is owing to filling up part of the lung with inflammatory matter. If, on percussion, another dull note is found, a dullness on one side through the other attach great importance to it. Coupling with the sign that is indicative of the presence of the consolidation, we have the percussion, the laboratory [illegible]

becomes larger, [illegible]
[illegible]
[illegible] the bronchi
[illegible] which their caliber is diminished.
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] oscillator; giving rise to bron-
[illegible]
[illegible] beam to collect we have the
[illegible]
[illegible] is heard directly over the cor-
[illegible] When the bubbles mate
[illegible]

[illegible] heard [illegible]
respiration. [illegible] is [illegible]
these. If [illegible] when the cavity
is near the outer margin of the lung
or the [illegible] of lung above it
much compressed. The voice seems to
come directly from the cavity to the
ear and is hear very distinctly.
There are many other physical signs
but those we have mentioned are the
most characteristic [illegible]
[illegible] most important.

Diagnosis. — The diagnosis is
sometimes difficult in the first stage
and that form characterized by the
[illegible] of [illegible]
[illegible] — The [illegible]

to distinguish at any stage.

Ordinary [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] which are unequivocal.

When a dog [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]

at once and wait for better evidence before giving a decided opinion. Both of the spinal and bronchial signs depend more upon the development of tubercle. When they continue to exist and are accompanied by hectic fever, haemoptysis, the characteristic sputa or other signs leading one to suspect or to actually find a cavity, it is hazardous to give it as our decided opinion that phthisis exists.

Pneumonia and phthisis have some physical signs in common, and those of both are diffused over the region of the

[illegible] of [illegible] are
[illegible] exposed to the [illegible].
This also [illegible] it [illegible]
[illegible] [illegible] the [illegible]
[illegible] of [illegible] is the [illegible] of
the [illegible].

Cholera. — Death from cholera
occasions is the [illegible] and [illegible] of
[illegible] [illegible] [illegible] [illegible] [illegible].
This [illegible] [illegible] [illegible] [illegible]
in the [illegible] for there are [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible].
Beside this we may often succeed in
[illegible] a valuable life. The presence
of [illegible] [illegible] [illegible] [illegible]
[illegible] died of other diseases is evidence of

the [illegible] of [illegible]
[illegible] called to the [illegible]
[illegible] and [illegible]
[illegible] and [illegible] of [illegible] the [illegible]
[illegible] and [illegible] the life of the [illegible]
[illegible] [illegible] [illegible] and [illegible]
[illegible] on the part of the [illegible] of the
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] the [illegible] of
[illegible] [illegible] [illegible] [illegible]
by the scientific of late to bring it more
under our control and we are not [illegible]
[illegible] in neglecting its treatment be-
[illegible] [illegible] [illegible] [illegible].

Conclusion — We hope the most
important part of the treatment is [illegible]
[illegible]. The patient should have good

[illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
greater prevalence of the disease among
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] to obtain good food. Hence it
becomes a [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible] [illegible]
[illegible] of vegetables and [illegible] [illegible].
This is found to be more agreeable
[illegible] than either one or the other
alone. The use of such dish as eggs
milk, butter, oysters and [illegible] may
be freely indulged [illegible] [illegible] [illegible]
there is no febrile excitement to con-
[illegible] [illegible] [illegible]. But these [illegible]
should not be [illegible] [illegible] [illegible]

is to impair the digestive organs, the function of which should be carefully watched during the progress of the disease.

Exercise, which is so much by some prescribed, should be [illegible] but, shortness of breath, might be [illegible] by encouraging the patient to indulge freely in the use of [illegible] and to adopt sedentary habits of life.

[illegible] allow of the patient doing so.

[illegible] do more in the first stage than by active exercise during all kinds

of exercise. Active exercise should be insisted upon — not a mere walk or short ride occasionally; but it should be engaged in until it induces real fatigue. It should not be engaged in suddenly, without the precaution of regularity, but commenced gradually and cautiously increased as the patient can bear it. The difficulty in the great majority of cases is that patients are not to be induced to abandon the sofa and chair and do as much as they can for themselves. They are not willing to believe the contrary, but they find that they keep the disease worse and the strength of life and

[illegible] acknowledgement of their [illegible] in its [illegible]. [illegible] they do [illegible] the efforts of the physician.

[illegible] the best [illegible] exercise that should be engaged in. Riding on horseback possesses the advantages of fresh air without pulling the patient out of the house, [illegible] for a length of time. There seems to be no [illegible] of exercise followed by bad [illegible]. [illegible] circumstances of the patient will permit of this kind of exercise it should not be neglected and persons having a hereditary tendency to the development of tubercles would do

[illegible] is what is [illegible] [illegible] [illegible], There are many other means of [illegible] which have been found beneficial. Dr. [illegible] an eminent member of the medical profession — whose lungs on post mortem examination gave evidence of having been the seat of tubercular [illegible] attributed to the plan of [illegible] [illegible] [illegible] as a [illegible] [illegible] [illegible], his patients and attributed his recovery to this more than any thing else.

Comfortable clothing to protect the patient from the inclemency of the weather is another consideration too important to be neglected.

[illegible] should be [illegible] with the [illegible]
the [illegible] of [illegible] the [illegible] should
be well [illegible], if [illegible] with
skin or other [illegible] belonging [illegible]
should cover the [illegible], the feet should
be [illegible] dry and warm.

If the disease be such [illegible]
[illegible] food may [illegible] [illegible]
[illegible] and dry [illegible] [illegible] the [illegible].

Persons should not be [illegible] of
the comforts of home and the society
of relatives and friends when
the disease is advanced. The ad-
[illegible] [illegible] [illegible]
[illegible] be [illegible] [illegible]
by the [illegible] of [illegible]
the [illegible] and [illegible] attention

Care should be taken in selecting a residence by those of the [illegible] for good sanitary reasons. Many fears are raised by the class of people, the island of Cuba is a favorite resort, and perhaps in the country there is no better reality than the climate of Florida, Alabama or Georgia. The interior should always be chosen, owing to its dryness and being more free from malaria and storms. There are other hygienic conditions to be observed in the treatment of phthisis, which are of less importance.

We need notice the general [illegible]

by medicine. The effect of this is to be the cause of happiness and to corrupt children and female constitution. By the accomplishment of this object it is considered a great - so effectual as Cod-liver oil. Place [illegible] to be [illegible] [illegible] influence by the happiness with reference to it.

For the discovery of its good effects the profession is indebted to Dr. John Cayle Bennett of Edinburgh, who introduced it to notice in 1841.

Under its use the symptoms are relieved all [illegible]. The weight is much increased [illegible] be it [illegible] both ides. The pulse becomes less

[illegible] — The night-sweats are less
[illegible] — The patient sows more
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] table value of this em-
[illegible]
[illegible] be proved to have testing
[illegible] effect. The [illegible]
[illegible] from phthisis is believed to be
[illegible]
[illegible] a general.
[illegible] does not produce the good effect
[illegible]
[illegible] continued because night sw-
[illegible] not take place after a
[illegible]

[illegible] on for months or even years with the hope of a good result.

The first [illegible] of cod liver oil should be discontinued during the existence of any acute inflammatory affection. The remaining dose should be about [illegible] fold. The best time to administer it is after meals. [illegible] should be taken [illegible] with the very best and sweetest oil. Oftentimes patients are [illegible] to have a [illegible] for the oil and removed [illegible] to take it in the future by having a dose of [illegible] oil administered to them at first. The taste may be disguised

by some aromatic water or bitter infusion. The best vehicle is said to be the froth of porter.

If vomiting be caused by it a drop of croton oil may be added.

When the stomach will not tolerate it enemata containing it may be used.

When the patient is unable to take the oil in the ordinary [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] ~~[illegible]~~ the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible]. This is [illegible] to the [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible] [illegible].

It may be administered in the form of infusion. A wineglass full three times a day. Other agents have been recommended in the general treatment, but [illegible] depend upon these two alone.

Second. Local. Is mostly palliative. We cannot expect to cure [illegible] the cough, hemoptysis or any of the other troublesome accidents of the disease without first removing the diseased condition upon which they depend. The local treatment should not be attached to the general treatment since by being too officious we may aggravate the disease. It is only when the symptoms of

[illegible] of the disease become [illegible]

Cough is one of the first-[illegible]

[illegible] oil, [illegible]

[illegible] is also one of the most effectual means [illegible]

Opium has long been used as a [illegible]

If [illegible] may be substituted for it. A favorite formula to be given at night to [illegible]

Hyoscyamus gr iii

Morphia poisoning taken suddenly and in a short period may prove fatal. When it occurs or during the patient should be placed on his back with his head and shoulders elevated, perfect rest should be enjoined. All causes of excitement must be avoided & fresh air admitted into the apartment. After the [illegible] the patient should be directed to take a quantity of [illegible] of the [illegible] coming from a teaspoonful to a tablespoonful to dissolve in his mouth and swallow it as he can. [illegible]

fails to arrest the hemorrhage for a time at least. It may be assisted if necessary by local application. Ergot in ten grain doses given every two or three hours is also a useful auxiliary. When the haemoptysis is inconsiderable it seldom becomes necessary to treat it as it subsides spontaneously in a few days.

Nothing seems so efficacious for the relief of the dyspnoea as the [illegible] in the [illegible] of [illegible] in doses of five grains three times a day. The dose may subsequently be diminished to two grains. The acid [illegible] [illegible] [illegible] [illegible]

antipyretic; which is important in a disease so debilitating and where the indication is to support the system.

The night sweats are often very troublesome and exhausting. We believe there has been nothing perhaps more effectual than the pill of Oxide of Zinc and Col. of Hyoscyamus given at bed time.

The mineral acids especially the sulphuric is highly recommended, from to fifteen drops of the aromatic sulphuric acid may be given three or four times a day in a mucilaginous water.

Sponging the body with tepid

[illegible] or [illegible] [illegible] [illegible] [illegible]
10. The patient should always
[illegible] and the various stimu-
lants may be used to stock the di-
aphorae. These should not be used
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There are many other symptoms
which may arise during the pro-
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by hygienic regulations and

medicinal agents, the patient must be duly apprized of the importance of strictly observing the directions of his physician.

Much more might be written of this very interesting subject, but it must be content with having noticed the leading facts connected with it.

With the hope that this will be viewed as a collection of facts from which I have a opinion in the study of the great principles pertaining to the science of medicine it is respectfully submitted for consideration.

An Inaugural Dissertation

On Pleurisy

Submitted

to the Examination

of the

Board Regents of the Faculty of Physic

of the

University of Maryland

for the Degree of Doctor of Medicine

by

Edward Lindsay Stone

of Baltimore

A. D. 1865

Gentlemen,

It being obligatory upon every candidate, for the degree of "Doctor of Medicine" to deposit with the faculty, a thesis upon some subject, connected with Medicine, I have selected Nausea, as mine, and submit the following pages, with a consciousness of their imperfections.

Respectfully,

C. F. Irons

Feb. 10th 1865.

Pleurisy or Pleuritis.

Inflammation of the pleura, —

This is said to be one of the most common of the inflammatory diseases, and may often occur, without having been discovered during the life of the individual, as the results of such inflammation have often been found in examinations after death, when the patient has died of some other, than a disease of the thorax.

A knowledge of the anatomical changes that occur in the pleura, during the

progress of the disease, will enable us the better, to understand the signs it affords; we will therefore first speak of these changes, then of the symptoms, signs, and treatment of the acute and chronic form of the disease.

Anatomical changes: the first visible change in simple pleurisy is redness, caused by the congestion of the subserous vessels, and dryness of the surface, from diminished secretion; very soon effusion occurs and it may be all serum or all

fibrinous, but generally it is a mixture of the two.

The fibrine is deposited in a thin film at first, and over the whole diseased surface, it gradually thickens, and may become much thicker in patches, and of a bloody colour, and sometimes, it exhibits shreds, connecting the opposite pleural surfaces, the surface becomes quite rough, and the deposit thicker below than above; it may become organized, first exhibiting small red points, the basis ramifying through the

substance, and finally, forming vascular connection with the pleura. The serous effusion may be very slight amounting to a few ounces, or so copious as to cause deformity of the chest, but this is rare in the acute variety. The fluid is generally a yellowish, limpid or slightly clouded serum, sometimes it is bloody without coagula, and at other times it may be purulent in character; it is generally free in the cavity and changes with the position of the patient. The lung may be forced from its natural

position, compressed and flattened against the posterior wall of the chest, the degree of the alteration depending upon the amount of fluid present; usually there is not much compression in the acute form. The air cells in recent cases, where the lung is much compressed, do not usually form adhesions, but are capable of expanding as soon as the pressure is removed. Although the serous membrane may appear thickened and swollen, it is not, the apparent swelling is caused by injection

or infiltration of the cellular tissue beneath it, and the thickening, by the deposit on its surface.

If the effusion has been all serum, it may be speedily absorbed, without any adhesions occurring; but this is doubtless rare, most commonly do they occur, when the surfaces come in contact; the lymph becomes organized, and finally the false membrane takes on a vital process, by which the superfluous parts are removed and the attachment between the pleura

is reduced to a delicate tissue of cellular membrane.

Chronic Pleurisy — The changes are the same, only modified by time; the effusion generally more copious, and frequently of a purulent character.

The walls of the chest are generally more bulging, and a greater degree of displacement of the neighboring viscera, the lung is often flattened like a cake, and the air-cells obliterated, so it can never expand again, or the lung may be bound down so firmly, by the false membrane

that even were they not obliterated, it could not expand; the cavity it is said, becomes nearly filled with this coagulable lymph, sometimes, and by its contraction, during the progress of organization, causing great deformity.

Pleuro Pneumonia. — In this the effusion is not so great because, of the hardened condition of the lung resisting compression; for the same reason, the lung may not lose its function to so great a degree, by adhesions, for if the absorption of the

effusion in the lung, and cavity, keep pace with each other, there cannot be much alteration of its size and capacity.

Symptoms. — Acute pleurisy is generally ushered in by a well-defined chill, followed by a fever, with hot skin, dry cough, sharp pain in the side of a lancinating character; the patient complains of "a stitch in the side." The pain is generally referred to the region of the nipple. The respiration is hurried; the pulse is generally frequent, full and tense; the patient, has at first, ex-

the sound side, afterward on the other. When the effusion begins, the pain generally abates, somewhat, owing probably, to the relief of the engorged vessels, and to the under pleura, being bathed with fluid, and kept from immediate contact, and the friction thereby lessened. The pain may precede the chill, come on with it or follow it. Physical signs, — If the ear be applied to the chest before effusion has commenced, a grating or friction sound, will be heard, caused by the dry surfaces rubbing together,

sounding like two pieces of leather rubbed in contact; it can often be felt by the patient, and also heard by him, and the grating may be felt by the hand, if placed flatly over the side. This sign however, soon ceases, owing to the effusion, at first, lubricating the parts, and finally separating them, but, when it is heard, it may be considered characteristic. Percussion reveals at first, no abnormal sound, except there may be some degree of dullness, caused by the injected cellular tissue, or by a

coating of lymph, but when serous effusion has commenced, dullness soon becomes decided; as the liquid increases, the sound becomes flat, commencing below and proceeding upwards, and corresponding with the amount of the effusion, which can generally be readily ascertained, for the fluid obeying the laws of gravity, will always be at the bottom of the cavity, and by percussing from below upwards, a line may be reached, corresponding with the surface of the liquid, up to which then will

to flatness, and above which there will be a comparatively clear sound, and the line will vary with the position of the patient, provided the fluid is not confined by old adhesions; the flatness, may be owing to the production of lymph, in that case it will not shift about with the position of the patient. If it should be principally serous and as the tapping be in progress above the lung and costal pleura, the liquid will be thrown into vibrations by the voice, and the voice perceived

modified, it will assume a bronchitic hoarseness, something like the bleating of a goat, or lamb, called aegophony; this other hoarseness may be considered a pathognomonic sign, as it cannot be produced by any other known cause.

The cough, is short and dry, but if bronchitis is present, there may be some expectoration of mucus peculiar to that affection. If the inflammation is very acute, the cough, may be almost entirely suppressed, but in milder cases it is generally short and dry, sounding as if

it were, only partially finished, the patient, on account of the pain it produces, tries, and does partially succeed in suppressing it. The respiration is hurried and painful, the lung of the affected side performing its office feebly, on account of the pain produced in expanding the chest; and when effusion has occurred, the lung becomes more or less compressed, hence a marked difference may be noticed in the movements of the two sides, the one affected remaining nearly motionless.

The dyspnoea, instead of diminishing with the pain, may be increased, owing to the lung being so much compressed by the effusion, rendering it partially, or wholly, unable to perform its function, thereby throwing the duty of aerating the blood upon the lung of the sound side, which is almost inadequate to the task, hence the distress, more especially, if this the case at the effusion is sudden and copious, the system, not having time to accomodate itself to the change. The decubitus, is

of some importance, the patient will not lie on the affected side, for the pressure upon the inflamed and tender pleura, increases the pain, he will lie upon the sound side at first, but when the effusion occurs, and becomes considerable, he will lie on the affected side, for the weight of the fluid, compresses the sound lung, and embarrasses it, or, he will lie in a position between the two. Auscultation, reveals nothing in particular, at first, except the feeble sound and a diminution of the respiration.

murmur, owing to the deficient expansion of the lung, which may be rendered more evident, by comparing the two sides, but this latter sign is not of much importance by itself, for it may be produced by any painful affection of the wall of the chest, as of pleurodynia. But as the effusion increases, the lung becomes more and more compressed the respiratory murmur decreases until it is lost; but owing to adhesions of some part of the lung, the respiration may be bronchial, the contained lung

conducting the sound to the ear, at the adherent part.

The resonance of the voice, which may have been increased at first, by the effusion being fibrinous, and thus bridging, by the layer of fluid interposed, becomes entirely lost, when the fluid amounts to one inch or more in thickness.

The shape of the cyst. — When the effusion is considerable, the side is altered in shape, it becomes enlarged and bulging, the lobe sometimes bulging beyond the second side. There is also a diffu-

ence in the movements of the two sides, the one affected remaining nearly motionless. The heart may encroach, upon the right cavity, and be heard beating upon the right side of the sternum, if the left side, be the one affected, and near the mamilla, of the left side, if it be the right. The liver may be found lower than natural. But these displacements are more apt to occur in chronic, than in acute pleurisy. The course of acute pleurisy is very uniform. If the proper measures are resorted to at a early

stage, before effusion has begun, it may generally be speedily arrested, but if it has occurred, it will require a longer time; the effusion may continue to increase, regardless, which has been heard, finally ceases, bronchial respiration, more and more distant, until lost, and flatness upon percussion, over a large part of the chest; the pain may have nearly ceased, but the dyspnoea increased. The disease may continue thus, for an indefinite length of time, depending much upon

the vital energies of the patient; recovery may take place in two or three weeks, and sometimes not for months, the disease assuming a chronic form.

Ordinary cases, when the effusion has not been great, are cured in from five, to seven days. If the disease terminate favorably, the fever, cough, and dyspnoea, gradually disappear, and the lung will gradually expand, to fill the void occasioned by the absorption of the fluid. But it may be prevented from expanding fully, by bands of

false membrane, binding it down, and dyspnœa, may continue for some time, along with some deformity of the chest; but this is usually modified by time, the bands becoming gradually elongated, and allowing the lung to expand more and more. When both pleura are involved, the dyspnœa, fever, and other symptoms, are greater, and the disease is more dangerous; the pain may be felt on both one side, we have not in these cases the advantage of the comparison of a sound with

a diseased side, but as all the symptoms are more intense it may be readily ascertained.

Chronic Pleurisy. — This may result from an attack of acute pleurisy, or the same low grade of symptoms, may accompany it from the first. When pleurisy is associated with tubercles, or any chronic, pulmonic disease, it is likely to become itself chronic and, often, the most effectual remedies have been tried in vain, there may be reason to think, that some such disease, may have been

the cause, as tubercles deposited in the pleura for instance, or phthisis. There may be some acute pain in chronic pleurisy, but it is generally a dull, aching pain, with a sense of general uneasiness in the chest, the cough may be short and dry, or accompanied with some expectoration, if bronchitis is present. The most marked symptom, is dyspnoea, especially after taking exercise this may often be distressing, but in general, not so much so, with the same amount of effusion

as in the acute form, for the system has more time, to accomodate itself to the change. The patient may be able to go about, though pale and emaciated. The circulation is sometimes, but, little affected, but at other times it may be hurried and there may be paroxysms of hectic fever, with night sweats. In such cases then is reason to suspect empyema. The physical signs, are small movement, the chest is bulged, the body bent toward the sound side, the in-

-costal spaces, flat or convex, percussion yields a flat sound, at the lower part, and sometimes over the whole side of the chest. There is no respiratory murmur, or vocal resonance heard, and the bronchial respiration, feeble if at all, unless some portion of the lung is adherent to the costal pleura then, the bronchial respiration, and bronchophony, may be both heard; the densely compressed lung conveying the sound to that part of the chest. In the progress of chronic pleurisy, the fluid may be absorbed, and the lung having been compressed so

long, that it has lost its expansibility, or may be bound down so firmly, by bands of false membrane, as to be incapable of filling the cavity, and the pressure of the atmosphere without, may occasion great deformity, by pressing in the parietes, and then the bulging may appear, as though it was on the sound side. The heart may be displaced, and encroach upon the cavity, with a portion of the healthy lung, in which case, the sound lung doubtless, becomes abnormally enlarged, it having more room to expand,

toward the partial vacuum, occasioned by the absorption, or the fluid, may not be absorbed, the effusion, keeping pace with the absorption; the expanded condition of the chest may continue, until the patient is worn out by the constant irritation, or the fluid, if pus, may make its way into the bronchial tubes, and be expectorated, if not in so large a quantity, as to overwhelm the lungs, or it may take an external direction, and form a tumour, between the ribs, which may open, and form a direct

communication with the external air; in either case, producing pneumo-thorax.

But before the case has progressed, to such a state, the liquid may be absorbed, and the lung may regain, a part of its expansibility, the bands of fibrine, may be gradually lengthened, permitting the lung to partially fill the vacuum; in that case, the deformity, may not be so great, and there will be less derangement of the viscera, and the patient may obtain a tolerable degree of health, especially if young.

In case the pus, is discharged by the efforts of nature, as above indicated, there is great danger of fresh inflammation being lighted up, by the pus becoming putrid, in consequence of the air, admitted into the cavity, nevertheless, he may survive it, and get well of the disease. In the instances where the fluid has not been absorbed after protracted treatment, it may be in part or wholly pus, which very much increases the danger of a fatal result as a large collection of pus in the pleural cavity, is probably never absorbed.

nature nevertheless, makes an attempt sometimes to get rid of it, in the manner above stated. Chronic pleurisy may terminate, in a few months, or may last for years, its danger is always increased, by complication with tuberculous or other organic disease.

Pleuro-pneumonia.— In this complication, there is the characteristic signs, of both affections united, of which the acid, and rusty sputa of pneumonia, is observed, and the characteristic "stitch in the side" and friction sound in pleurisy. The

repletion of pneumonia, is heard early in the disease, before effusion begins, and sometimes returns after absorption. The friction sound, aegophony, and flatness on percussion, indicate pleurisy.

Cause — Exposure to the vicissitudes of the weather, as to cold, when in a state of perspiration, are common causes. Mechanical violence, sudden checking of habitual discharges. Tubercles will often cause it by the irritation produced on the pleura by the close proximity of a mass of tubercles, or of ter-

softening and discharging into the cavity. Or it may be produced, by the transfer of irritations, from other parts. The removal of cancers and other tumours, from the region of the mamma, and axilla, is said to cause it sometimes.

Diagnosis: — The other diseases with which pleurisy is likely to be confounded, is pleurodynia, pericarditis, and pneumonia; it may be distinguished from pleurodynia by the absence of fever, cough, and the physical signs of pleurisy. The pain in pleurodynia being often onset—

ted, and by boring the body pain may be felt on other portions of the chest. From pericarditis, it may be distinguished, by the position of the friction sound, and it not corresponding to the action of the heart, also by the region of the duller flat sound, and the mobility of the fluid in pleurisy.

From pneumonia, by the absence of crepitation, the character of the pain, and sputa, the rust sputa characteristic of pneumonia.

Prognosis: — In simple pleurisy the prognosis is always favorable,

if the patient, be seen at an early stage of the disease. Should the effusion be large, or the case chronic, it is then doubtful, and especially when associated, with tubercles or any chronic disease.

— Treatment of acute pleurisy —

When there is high inflammatory action, with great pain, venesection blood-letting is fairly indicated, and should be employed freely enough, to make a decided impression; and if so employed, at an early stage of the disease, before effusion has occurred, may be entirely conven-

ed, or so modified, as to render it comparatively harmless; and if effusion has commenced, it will hasten its absorption. When general bleeding has been carried far enough, the bowels should be thoroughly evacuated. After these measures have been taken, the indication should be to keep down the inflammatory symptoms, by local depletion, and internal sedatives. The local bleeding will be more serviceable, if employed at the time, when the pain is most severe; but should there be no mitigation of the pain, the

lancet may be employed again, and again if the pulse will admit it. The first evacuation of the bowels, should be effected, by a full dose of sulphate of magnesia, or infusion of sena, with the salts, or a combination of calomel, with some active cathartic, then they should be kept open once a day with saline laxatives, castor oil, or by enema. After the high inflammatory action has been reduced by the lancet, small doses of tartar emetic, with the neutral mixture, or effervescing draught, may be administered

every two or three hours during the day, if the skin is hot and dry, and at night, a full dose of Dovers powders, with two or three grains of calomel, to open the skin, and keep up action in the bowels. Warm poultices to the side, are soothing, by their warmth and moisture, and especially if made of hops, and a drachm or two of tincture of opium sprinkled over its surface. When the febrile excitement has been suppressed a large blister over the side will hasten the cure; it should be, eight by ten inches, and left

on long enough to draw, should the effusion continue, and be considerable in quantity, the system may be brought gradually under the influence of mercury, it should be exhibited in small doses, at regular intervals, and when the gums are touched should be suspended. Blue mass or calomel, may be employed for the purpose. If, after this, the effusion continues, squills or digitalis be associated with the mercurials. Nitre, colchicum, cream of tartar, and iodide of potassium, may be tried, with repeated blistering

There are many asthenic cases of acute pleurisy met with, that will not bear general blood letting well, and then we must confine the treatment, to local depletion, when admissible, and commence early with the mercurials. In the treatment of any cases of pleurisy, the state of the pulse should be regarded, and the treatment varied accordingly; we should not bleed because it is pleurisy, but use the powerful agent to combat the disease, when it is there & requiring a powerful sedative to

-tute it. In cases of a low asthenic character, it may be doubtful if the patient can bear any loss of blood, even by cups or leeches, we must depend upon derivatives; blistering, may generally be resorted to early, turpentine stoups, small doses of tartar-emetic, with neutral mixture, or effervescing draught, and it may soon become necessary to stimulate the patient, he should therefore be watched closely, and if the pulse becomes feeble and irregular, use, ammonia, wine, or brandy, and if the pulse

becomes fuller, slower, and more regular, under their use, we may know they are doing good, they should be used very sparingly at first, and their effects carefully noticed. The patient in the early stages, seldom has any appetite to eat, and nothing should be forced upon him; mucilaginous and farinaceous drinks will be sufficient, and at a later period, toast and tea, gradually progressing, to a more nourishing diet. The temperature of the room should be kept as regular as possible day and night which

should be comfortably warm.

Chronic Pleurisy:— In general these cases are all asthenic, and will not bear depletion, and if employed, should be with caution, local bleeding by cups or leeches, being in general preferable, to general blood letting. Counter irritants, and alteratives combined with the proper hygienic measures are the main dependance. Blistering is the invaluable thing should be used and often repeated, one following the other in quick succession, and at different places on the

blest each time, so as to keep up a constant impression, or pustulation with tartar emetic, or in old cases seatons may be employed. Internally, mercury may be employed, to favor absorption, with squill, or digitalis. Tonics are useful, the preparations of iron, with iodine, preparations of bark, mineral acids &c. Of the hygienic measures, good plain nourishing diet, pure air, salt water bathing, moderate exposure to the rays of the sun, and in some instances travelling.

When all remedies have failed

to absorb the fluid, and there is immediate danger of the patient suffocating by the great amount of fluid, it should be let out, the patient will have no more chance for his life. The operation of paracentesis, in itself is not dangerous but its sequela may be. There is danger of fresh inflammation being lighted up in consequence of the presence of air in the cavity, producing chemical changes in the fluid, and may occasion pyaemia with all its evil consequences. If there should be an abscess

between the ribs, which may be made to fluctuate, the puncture should be made at that spot; If no such spot exist, the space between the fifth and sixth rib should be prefered. If it should be pus, and showing no disposition to cease discharging, but forming continually, slightly, stimulating injections should be tried, just sufficient the cavity with some bland demulcent, as sassafras, pith, or marsh mallow. Should the pus be putrid, it is recommended to use some antiseptic, as creasote, or some compound solution.

iodine injections, have been found useful, in arresting the formation of pus; a solution consisting of one part of iodide of potassium, ten parts of the tincture of iodine, and a hundred parts of water, making in all about four fluid ounces, has been thrown into the cavity, every two or three days, and as the parts became accustomed to the stimulant, the strength of the solution was increased. In performing the operation, care should be taken, not to allow any air to enter the cavity. as soon as the fluid begins to flag, at the orifice of

the canula, it should be closed with the finger, or the tube may be supplied with a stop cock. If it is serum, the wound should be closed, after draining off all that will flow, but that the remaining portion, will be absorbed, but should it be pus, it would be better to have the wound open, and treated as recommended above.

Pleuro Pneumonia. — Little need be said about the treatment of this complication, as the treatment is about the same as in acute pleurisy, without the complication.

An

Inaugural Dissertation

On

Intermittent Fever

Submitted to the Examination

Of the

Provost Regents and Faculty of Physic

Of the

University of Maryland

For the Degree

Of

Doctor of Medicine

By

William D. Reed

Of

Accomack County

Virginia.

Anno Domini 1863.

Intermittent Fever

This fever which goes by the name of ague, is the most common form of fever prevalent, in the middle, southern, & southwestern sections of the United States. It being paroxysmal, resembling several other maladies that belong to the nervous system. There are a certain series of symptoms, and then a change which is similar to that of health. The alternation happens a number of times, and the whole period, during which the attacks continue to recur, may be regarded as one single disease. Ague fit is composed of three dist-

continued

inct stages, and they are named from the phenomena which characterizes them; the cold, the hot and the sweating stage. The feeling at the commencement of an attack of ague, are first a sensation of debility & distress about the epigastrium; then weakness and languidness. The patient feels unfit for any kind of exertion; he begins to sigh, he yawns & stretch himself, and soon experiences a sensation of chilliness in the back, along the course of the spine. His features become pale, shrunk, and his skin is extended dry and rough; presenting little perspiration.

3 somewhat similar to those produced by exposure to cold. In a few moments the slight-chilliness first felt creeping along the back, becomes severe and even excited. The patient feels very cold; he trembles and shivers at a great rate, his teeth chatter violently, his cheeks lips, ears, and finger nails turn blue. His respirations are quick and anxious, his pulse frequent, sometimes feeble, and there is pain in the back, head and loins. The secretions are usually diminished, the bowels are confined & his tongue dry and white. After a certain length of time, there is a change of almost an opposite kind. Flashes of heat begin to

superficie; and these commence generally about the neck and face. The chilliness finally ceases entirely, the skin becomes natural and smooth. The changed features and extremities resume their natural state, and the patient is near what he was before the chill; but the reaction does not cease here, it continues, and goes beyond the healthy state. The features that a short while ago were collapsed, are now red and turgid, the surface hot and dry, the temple throbs, the head aches, the pulse becomes full, strong and rapid, the breathing is oppressed, the urine scanty and high colored, the tongue

 are those of uncomfortableness.

After the hot stage, comes the third or sweating stage. The skin which was first pale and rough then red & hot, begins to recover its natural softness. The forehead and face at first becomes, then a copious sweating breaks forth, which produces a feeling of great relief to the patient, the thirst ceases, the tongue becomes moist, the urine that was scanty, becomes plentiful, the pulse almost natural, the pain gradually ceases and finally the sweating terminates, and the patient gets nearly as well as ever. The earlier stages of the disease

signs of debility, and a depressed state of the nervous system.
The blood having the superficial capillaries is the cause of the paleness of the surface &, the collapse of the features; and also of the chilliness of the skin. The three stages are not essential to one an other; the cold stage may occur and never be followed by the hot, or the hot stage may come on without any previous cold stage, and when they both happen; they are not by any means proportional to each other, for often a slight chill is followed by a severe fever. The period that elapses between the termination of one, and commencement of the

next is called an intermission, and the period that intervenes between the beginning of one paroxysm and the commencement of the next, is called an interval. When the intermissions are perfect & complete the patient assuming the appearance of health, the disorder is termed an intermittent fever. When the intermissions are imperfect, the patient remaining ill and feverish, in a less degree than during paroxysms then the disease is termed a remittent fever. The intervals in this form though quite regular, differ much in duration in different cases. When a paroxysm occurs at the same time every day, the patient is said to have the

ague, when it comes on at the same hour every other day, appearing and remaining absent day by day alternately, he is said to be labouring under tertian ague. When it absents itself for two whole days and then recurs, the complaint is called a quartan ague. It follows therefore, that in the tertian type, the interval is twenty four hours. In the tertian forty eight and in the quartan seventy two. Each of these types, have some other characters peculiar to themselves; for instance the paroxysms of the quotidian ague generally begins in the morning; those of the tertian at noon, and those of the quartan in the

afternoon. This is generally the case. The three principal types differ from each other, not only in their intervals, but in the periods of the day at which the paroxysms usually commence, but also in their duration, and in the proportion which the paroxysms bear to each other. The average duration of the paroxysm in the quotidian is ten or twelve hours and of course the intermission must be nearly the same. The tertian paroxysm not so long, commonly begins at noon (or is premature) the same morning, its average duration being about six or eight hours and the quartan fits from which it does not exceed four or six hours.

Though the quartan has the longest interval, and the shortest paroxysm it has the longest cold stage; whereas the quotidian has the shortest interval and the shortest cold stage, but the longest paroxysm. Of these three types the tertian is by far the most common. But the quotidian and quartan are neither of them infrequent whereas septan is prevalent. There are also other types also spoken of as quintans and sextans but these are so rare as scarcely ever to have them mentioned. There are some modifications of the types the tertian or quartan. For instance a paroxysm may occur daily and yet the type not be of the quotidian type but of the tertian."

The paroxysm of one day, may differ from the paroxysm of the next, but exactly resemble that of the third day, while the paroxysm of the 3d day may resemble that of the fourth, and so on alternately; and these differences will be decidedly marked. The paroxysms of the two consecutive days, will differ in the period in which they come on, also in duration and severity. This form of ague is called the double tertian.

There is another form of double tertian. Two fits shall occur on the one in the morning and other in the afternoon. The next day there will be fit; the next day again two, and the next none and so on.

In the same way there may be a double quotidian, In this a paroxysm occurs on days in succession, and leaves the third day free; then it returns on on the fourth day, as it was on the first; and on the fifth as it was on the second, and leaves the sixth day free, like the third, and so on. This is the quartana duplex. But two fits may come on one day; say on Monday, one on Tuesday or Wednesday, and two again on Thursday. This is called the quartana duplicata. The paroxysms of quartan ague may come every day, and so far resemble a quotidian; but the fit of the first day will differ from that of the second & third day, and so-

resemble that of the fourth, the fit of the second day will be dissimilar to that of the first, and third, and be similar to the fifth, and the fit of the third will be unlike that of either of the two preceding days, & find its counterpart in that of the sixth; this is a triple quotidian; and when three paroxysms occur in the first day, Tuesday for instance, and none on Monday, or Wednesday. But three again on Thursday corresponding respectively to the first three, these are called Quartana — tripliciata: There are also other complications which are of little practical value. Besides these varieties there are some deviations from the regular

course. The paroxysm is sometimes incomplete, one of its three stages are omitted, for instance the heat and sweating may occur, with the chill, or the chill without the heat; or the sweating stage be alone. Sometimes there is no distinct stage at all; the chilly feelings are languid and oppressed, this state is called the demi ague, by the inhabitants of ague districts. The different types may change, thus a quotidian may be transmuted into a tertian, a tertian into a quartan or a quartan into either of these. A paroxysm may alter its time of invasion, coming later and later in the day or earlier. When the paroxysms are so spontaneous

the disease is said to be milder; when it attacks earlier in the day, it is increasing in severity. From the postponement or anticipation of the paroxysms, we are enabled to make our prognosis. There are other modifications observed in the symptoms of the fits. Sometimes (though not often) in the hot stage paroxysms are attended with violent delirium; the patient is sometimes convulsed, syncope takes place. These deviations from the regular or common form is owing, depending, the constitutional predispositions of the patient. The duration of the disease is not easily told. Ague sometimes

consist of three or four paroxysms. And sometimes protracted for months or even years. An ague may make its attack at any time, but they are much more common in Spring and Autumn, than in any other seasons of the year.

So we often hear of vernal intermittents and Autumnal intermittents. The Autumnal agues are more severe than the vernal. The quotidian is the most common in the spring; the quartan in the Autumn, and the tertian is frequently met with in both as a vernal and as an Autumnal ague. Ague is one of the disorders which is liable to affect all persons, at any period of life

when exposed to the cause. Though persons of all ages are liable to it; yet there are some periods of life in which the susceptibility is greater when submitted to the influences of the exciting cause. It is less likely to affect the young, & the aged. than of middle life; nevertheless the old are not exempt; nor are the young. It is even said that persons have had ~~[illegible]~~ ague before they were born ~~[illegible]~~ There is a case recorded by Dr Russel in his history of Aleppo. The woman had taken ague, but on alternate days when she was cold and free, she felt the chill shake. Bark was prescribed & cured both. Debility may be reckoned among the

strong predisposing causes to ague.
Often when strong and in vigorous
health, may be exposed to its causes
without being affected, even if they
were weakened by fatigue or sickness
the same exposure would bring on
an attack of ague. But among
the predisposing causes the strong-
est is an attack of the disease
itself. One after having an ague,
is liable, to be attacked when exposed
to slight causes, that would otherwise
have been inoperative, the
disease itself brings into play other
predisposing causes; for by once having
the disease the body is placed in
such a condition, as slight influences
will renew it. If we were never

by exposed to ~~exposure~~ malaria. There would be little or no danger of one ever having ague, but having had intermittents; being brought on by exposure to malaria we may have it many times without any exposure.
The exciting cause of intermittent consist in certain invisible effluvia or emanation from the surface of the earth which was formerly called marsh miasmata, but which of late years gently the name of malaria. The malaria is a specific poison, producing specific effects upon the human body. In its medical sense it is not simply bad air or impure air. The impure air incident to large cities is superficial enough to

health, but it does not generate fever. True impure air such as results from crowded unventilated and filthy lanes, courts, and alleys which abound in suburbs in large cities, often give rise to typhus, typhoid and bilious fevers. But the emanations which cause ague have been called marsh miasmata, because they are common in marshy places.

The mildest form of fever which it gives rise, is the intermittent fever; but it alternates when it is more abundant the remittent becomes more common. The effluvia which thus forms the sole exciting cause of intermittent & remittent fevers proceed from the surface of the earth and are invisible.

2 in the atmosphere. This effluvia is imperceptible and we know nothing of its physical or chemical qualities. The only proofs are being made conscious of its effects. In the production of this deleterious agent, a certain degree of temperature seems necessary. It is supposed to require for its development a continuous temperature higher than sixty degrees of Fahrenheit's thermometer. The nearer we approach the equator the more abundant and pernicious does the poison become, whereas it is not at all. In this climate it gives rise to intermittents. But as we go South in Spain and along the shores of the Mediterranean the resultant, bro-

the most common, and remittents will often improve and be converted into an intermittent, when the patient is removed to a colder climate. A certain degree of moisture is also necessary for the development of the poison. For we may notice in those regions where malaria shows itself by its effects above, invariably certain parts, which parts are most generally remarkable, for their swampy character. The late Bishop Heber, in his narrative of a journey through the upper Provinces of India gives a striking picture of the influence of malaria in that part of the world. It seems that the malaria is not only fatal even to man, but to beast. It is sin-

4 monkeys & every thing which have the breath of life instantaneously deserts those woods, from the beginning of April to October. But during the time of the heaviest rains, while the water falls in in torrents and the cloudy sky tends to prevent evaporation from the ground, the forest may be passed with tolerable safety. It is in the extreme heat, and immediately after the rains have ceased, in May, the latter end of August, and the early parts of September that it is the most deadly. In October the animals return, and man can pass without much apprehension. Totally a certain quantity of heat and moisture is necessary for the

production of malaria, but there must be other elements. If heat + moisture alone were adequate we should find the fever prevailing among sailors, when out at sea, we hear of the fever getting among them when they approach the coast to land upon it. The water of marshes, has been examined under the microscope, and analysed, with a hope of discovering the nature of this pestilential agent but in vain. The air has been examined also with the same object, but with the same want of success.

When there is much heat and much moisture, there we find much and rank vegetation, and much vegetable

decay; and many believe that the putrefaction of vegetables matters, was requisite for the formation of the poison that exist in so many situations. But it has been seen that the decomposition of vegetables matters goes on abundantly without the production of malaria. We may notice, that upon some very healthy parts of our sea coast, again does not alone though putrefaction and offensive sea weeds - are deposited in large quantities. There are a number of circumstances, which go to prove that the malaria and the production of vegetable decomposition are two distinct things; they are

often in company with each other but they have no necessary connexion with each other. There is reason for believing that in all cases the poisonous emanations proceed from parts of the surface that have been flooded, and then dried, rather than from parts that are still wet and spongy.
For it has been noticed in high and low grounds lying near each other, change their character in respect to salubrity upon the occurrence of rains. The low grounds which had been very dangerous, become healthy when they are flooded over; and the high lands which are not wet, and dry rapidly, produce

the malaria abundantly; and it is well known that in malarious places, ague, and remittent fevers abound, more in hot and dry years, than in those which are cold and moist. Also in the higher grounds ague occurs, but as you descend in the mean atmospheric temperature, remittents are met with, and in the lowest and hottest part, the fever becomes continued.

It is particular in the autumn after a warm summer that agues assume their severest form.

The hotter and drier the preceding summer the more frequent and fatal are the autumnal fevers. A fact which is often noticed in regard

to the agency of malaria upon the body, is that it affects strangers much more decidedly and readily than the natives of the place; that is one may become acclimated, so that the injurious effects of the poison is in some degree mitigated. Often have we heard of persons visiting their friends, being attacked by the poison, while the natives are seldom, if ever troubled with ague. Although the natives are not so liable to the disease as strangers, nevertheless they are chronically afflicted by the insalubrity of the atmosphere, and they present a sunny, shattered and sickly appearance. Feeble in

both mind and body, more subject to dropsies and fluxes. But there is one curious fact viz. the negro seems proof against endemic fevers. In moist warm and low situations, where these deleterious exhalations are generated ~~xxx~~ prove to the negro congenial. He can live among them and enjoy life and health. There is ~~one~~ one point in intermittent, which there is difference of opinion, and that is the regular periodic recurrence of the paroxysm. Great numbers have examined this, Velleau ascribed the intermission to a periodic development of the fermentable matter in the

Hood. Keil refered the intermittence of fevers to some general law of the universe. Such as the periodic recurrence of the seasons, the ebbing and flowing of the tides. Mr Bailly attributes the periodic phenomena, to the change of position from the upright to the recumbent. Mr Hoach's opinion is that the attacks of agues are periodic, because their causes are periodic. He observes that the spring and the autumn are the seasons in which the intermittents generally break out, & that during these seasons there is a sensible difference in the temperature of the atmosphere by

day and by night. Mr Coates describes the periodicity of intermittents fevers to some base of the animal economy, whereby it is subject in many respects to a diurnal revolution. There is an interesting experiment performed by Mr Bracket upon himself which shows strongly the influence of acquired habit in keeping up certain accumulated states of the system, when once they have been originated. In October 1822 Mr Bracket took a cold bath at midnight, for several nights in succession in the river on the first night he remained a quarter of an hour, on the second a half

an hour, till at length he was able to stay fully an hour at the bath. After each bath, he retired to his bed and in a short time he came affected with heat, followed by a copious perspiration. At the end of seven days he ceased to repeat this experiment, but on the following night, all the phenomena of ague fit appeared. In all malarious districts the poison is much more pernicious during the night, than day. To sleep a night in such places, the liability to catch ague is very great. It has been observed among the crews of ships, when on a malarious coast, that the sailors could

you show with impunity that if any ventured at night they were almost certain to be attacked with the ague, and should be remembered that in malarious countries, the open air at night should be avoided. The malaria lives the ground. Dr. Watson says, it lurks downwards, it is supposed that the poison becomes combined or entangled with the fog, and we all know that fog settles at night upon the surface. Dr. Ferguson says that the inhabitants of ground floors are affected in greater portion, than those of the upper stories. Dr. Hunter in his work on the diseases of the

army in Jamaica says, "The barracks of Spanish-Town consist of two floors, the first on the ground, the second on the first, and it appears that three were taken ill on the ground floor, for one on the other. The malaria is movable by the winds, and is liable to be carried from the spot it was generated, to places which might have been free from it; and this point is worthy of consideration, especially in the tropical climates when the wind blows for a long time together from the same quarter, for often does the miasmata roll up and hang accumulated upon the side of a hill.

towards which a current of air sets steadily from across a neighboring marsh. By the wind the malaria may be transported to a distance, rendering a spot unhealthy which might be salubrious. A knowledge of these facts would be of much value to settlers in hot climates. It is said that miasmata lose their unhealthy properties by passing over a small surface of water. As they tend downwards they may be absorbed by it. In a former part of my thesis I mentioned an instance of some of the crew of a ship landed on a malarious coast and have all been attacked with the fever

while they that remained on their continued healthy & well, showing that the noxious properties of miasmata was lost by passing over a space of water. Miasmata may be attracted and adhere to the foliage of trees, so that it is dangerous to sleep under thick trees in malarious places. The diminution of agues in this country is often attributable to the culture of soil. There are countries which were so productive of malaria that the reapers in harvest were often attacked with ague; but those countries have been made healthy by a tillage of the soil. The fevers have thus abated, to dimi-

and increase with the diminution and increase of the population. When persons having intermittent fever, and are unable to leave the unhealthy situation, and when they're placed in unfavorable circumstances in respect to food and clothing, the disease is apt to become serious, leading to disturbance of the abdominal viscera, producing dysentery and diseases of the liver. The most characteristic morbid condition produced by repeated attacks of ague, consist in the enlargement of the spleen with or without induration of its substance. The spleen is increased in size enormously so that it is sometimes felt and

though the enlargements of the abdomen, and it is often called, agua caka, by the inhabitants of some places. Not only is the health injured by the operation of agua, but the health suffers independently of the agua, from the injurious influence of malarious districts. and those who have been for a long time exposed to the poison, present a sallow and yellowish complexion. Their stature is small they are prematurely old, and even their children present a wrinkled appearance. But even such strong analogous proofs before us seem to have thought that the effects of an attack of agua, were salutiferous. Dr. Thomson

in all the dissections in intermittents found the liver flabby and of a bronze colour and the spleen enlarged and softened. This alteration of the liver, will be found to exist in intermittents. As regards the prognosis of intermittents, in cold countries it is most always favorable. But if the patient was beforehand subject to serious organic visceral disease, of course the prognosis is not so favorable but in this country, in persons of good and robust constitutions, a cure may be expected. In warm climates intermittent fevers are often accompanied by most severe affections of the head, stupor, delirium, convulsions

and not unfrequently the black vomit; and from the phenomena we know that intermittents in warm climates are much more dangerous than in cold and often prove fatal. And some times they run into the remittent or continued form. Quartans which are the most common in the autumn are cured with more difficulty than either quotidians or tertians. If an intermittent be of long standing, we should expect to find it more difficult in curing, than in one of short standing; and we should also expect more danger from visceral disease. Intermittents are often cured by a change of the

patient from the malaria. But as we have a specific cure for the ague, there is no necessity for the removal of the patient unnecessarily. Our object should be to stop the disease as soon as we can, as it is distressing to the patient, as well as very debilitating; and to stop it in its commencement should begin with the specific remedies. The chief of these is the celebrated Peruvian bark or its active principle, salts of quina. The practice adopted by some is to give three grains of calomel, with six or eight grains of Rhubarb at bed time, and commence with quina the next day. In the fat

nature generally dictates to the patient. His own feelings prompt him to cover himself up in bed apply warmth to his feet ~~and take~~ and take some hot drinks during the rigors. In the heat stage he adopts a cooler regimen. But in warm countries when the fever is severe, medical advice is often asked for and different remedies have been recommended, diluent drinks, and cordials, and external warmth; as opium, and emetics and blood letting, among the diluent drinks are barley water, coarse tea, and gruel, these should be taken warm. External warmth is [illegible] and in the cold stage, the warm bath [illegible]

hot bricks, hot salt applied to the epigastrium; or a hot tile wrapped up in flannel applied to the feet, or a hot air bath, applied to the patient as he lies in bed. External warmth, applied in any of these ways, aids in shortening the cold stage. Opium & emetics are also recommended in the cold stage for cutting short the fit. Blood letting is spoken of by some authors, and objected to by others as it tends to produce debility. In this country if bleeding is used at all, I believe it is in the hot stage and then only for some internal inflammation. Opium has been recommended as the best remedy

in the hot stage, and it is said that by its use the head ache ceases and the fever passes off. The perspiration to a certain point should be promoted which may be done by keeping the patient in a warm bed, and allowing him to drink of a little hot gruel. When the sweating has continued long enough, it should be stopped by drying the patient with towels. But the time we should be most busy in adopting remedies is during the intermission. Purgatives should be given at the onset, they clear the stomach, and intestines of hurtful accumulations; which impedes the operation of quina. After a purgative has been given

we may commence with the specific remedies; the most important of which are bark and arsenic. Though on account of bark being dear & arsenic dangerous in unprofessional hands, many other drugs are used. At one time the bark in substance was given, but now the sulphate of quina is given. This drug has been given in different doses and at different times during the intermission. Some practitioners have given ten or three grains of the sulphate of quina every five or six hours during the intermission and been very successful. It is sometimes given in the infusion of roses which contains a quantity of sul-

phoric acid to the solution of the sulphate of quinia. In warm climates it takes larger doses to repel the disease. When quinia has been given in repeated and frequent doses, it produces a fullness of the head, and whenever the buzzing is experienced it should be stopped. On account of the irritability of the stomach, the drug has been thrown into the rectum dissolved in a mucilaginous of two or three ounces, its expulsion being prevented by adding a few drops of laudanum. The quinia may be administered endermically from 4 to 10 grs. being sprinkled upon a blistered surface. The ague after

being stopped is apt to recur; and to prevent this we should continue the quinia for 10 or 12 days.
The sulphate of cinchonia has been given in the place of quinia. Arsenic has great power in ague, but it is not a safe remedy. The form in which it is used is Fowler's solution. Quinia and arsenic may be considered the sheet anchors in the case of intermittents.
Among the other drugs said to cure ague are willow bark
web of the black spider
Charcoal in the dose of 10 or 20 grs
in arrow root and chamomile flowers
The preparations of iron & zinc have also been given. Ague is said to have

ing been cured by mental emotions, such as sudden joy, sudden anger or terror. Persons who have had the fever should avoid exposure to cold or heat, and should be particular in changing their clothing whenever; should keep in doors late in the evening and early in the morning, and when compelled to go out, should fortify themselves by a glass of wine, or ardent spirits, or some other kind

1865

An
Inaugural Dissertation
on
Pneumonia
Submitted to the examination
of the
Provost, Regents & faculty of Physic
of the
University of Maryland
for the degree
of Dr of Medicine
by
James Toth
of Maryland.

Gentlemen,

Being called upon by you, to submit a dissertation on some subject connected with medical science for your investigation, I have chosen the subject of Pneumonia for the foundation of what few remarks I have to make, hoping you may not view them with that investigation and criticism as from one having much practical knowledge, but consider it is from an amateur who has but commenced to learn the arts and sciences of Medicine.

Respectfully Submitted by

James Lock

Pneumonia

The term pneumonia is now generally applied to inflamation of the spongy tissue or parenchyma of the lungs. There are numerous varieties of this disease, and these varieties are founded upon the different portions of the lung that may be affected, or upon the relation of this disease to other diseases with which it may be associated, and upon the character of the accompanying fever or general state of the system. The inflamation may occupy a considerable extent of the lung embracing a whole lobe more or less or com

one whole lung may be involved, this is the common form of the dis-ease and the one generally meant when the simple name pneumonia is employed. Sometimes small portions of the lung may be affected with sound lung intervening, in this case the disease is termed lobular pneumonia. However the most frequent seat of the disease (as described by most authors) is in the lower lobe of the right lung, though it is usually confined to one lung sometimes it extends to both and in this case it is termed double pneumonia. When large portions of the pleura are involved the disease receives the name

of pleuro pneumonia. When associated with a low typhous state of the system it is called typhoid pneumonia. When with billious disorder, dependent upon simple derangement of the liver, or upon a concurrent billious fever, billious pneumonia.
Finally the disease may be acute or chronic, though the chronic form is not admitted by some authors. The one which I shall speak of principally, is the common form of the disease, in its acute form.
Anatomical Characters. It is admitted by all authors that there are three well marked stages of an acute pneumonia, first that of congestion

or congestion, second that of fully developed inflamation, third that of suppuration, or purulent infiltration.

In the first stage, or that of congestion, the affected portion exhibits a deep red color, crepitation under pressure, though less than in health, retains the impression of the finger, and, when cut exudes copiously a bloody, turbid, and somewhat frothy serum. It is more compact and heavy but less tenacious than in health, and notwithstanding its increased density, still floats in water. The cells are not obliterated in the first stage.

but still contain air. If the disease be arrested in this stage the lungs will resume its healthy appearance.

The second stage, named by Laennec to be that of red hepatization, is characterized by a deep red, or reddish brown color, the absence of crepitation under pressure, and the lung so much increased in density, that the diseased lung will sink in water. The softening is very great so that the lung may be torn without much resistance. When cut into, the lung has a striking resemblance to liver. When pressed between the fingers, it exudes

a reddish fluid, which is thicker, less frothy, and in less amount than that observed in the first stage. The cut or torn surface generally exhibits numberless minute granules, which are probably the air cells filled and distended with concrete fibrous exudation. The granular appearance however is not always observed. The surface is sometimes quite smooth and uniform, especially in the pneumonia of advanced life and infancy probably in consequence of the obliteration of the cells by the pressure of effused matter within them.

The third stage is described by

Laennec to be that of grey hepati-zation. In this stage, the lung is compact and dense as described in the second stage, but instead of the dark red color, it presents but externally and internally a yellow-ish, or greyish appearance, and, when cut, exudes a yellowish, opa-que, purulent fluid, sometimes tinged with blood. The lung is much softer than in the second stage, so much so, that if pressed between the fingers it is almost wholy resolved into a purulent fluid, with only shreds of solid tissue remaining. It is described as but my medicale degree of

force handling it, may produce a cavity which will soon fill with pus, and may very easily be mistaken for an abcess. Abcess of the lung is very rare when the whole lung is involved, as the patient dies, before the tissue is far breaks down to form an abcess. Gangrene very seldoms follows pneumonia, though it sometimes occurs.

Symptoms. The common form is usually ushered in with a chill, often very decided, difficult breathing, cough, and severe pain in the side or back part of the chest, sometimes the fever and local symptoms occur without

a chill, especially in infants, not unfrequently the disease commences with catarrhal symptoms, which may continue for several days before any signs of pneumonia become manifest. In fully developed pneumonia it is marked by fever, quickened breathing, pain in the chest, cough, and a scanty, viscid expectoration often intimately mixed with blood. The pain may precede, accompany, or follow the fever. It is often in the beginning very acute and sure, and is increased by coughing, or taking a full inspiration, but long pain is not generally very acute. It is more of

a dullness, or sense of oppression, and when it is very acute especially in the side it is generally considered that the pleura is somewhat involved. The breathing is always quickened. The number of respirations may be increased from about eighteen, the healthy standard to thirty, forty, or even more in a minute. The dyspnoea is sometimes very urgent, requiring your patient to be kept in an erect position, and even rendering it difficult for him to speak. Cough, in a great majority of cases is present, although in many cases are related where it was entirely absent for several days

The cough is sometimes violent and painful, in others moderate and with little or no pain. At first it is usually dry, or with a scanty mucous expectoration, but in a day or two a viscid semi-transparent mass is thrown up which is stained with blood, presenting a rusty color, sometimes presenting a yellow or greenish appearance according to the quantity of blood present. as the disease advances the tenacity of the sputa increases, so that it will stick to the bottom of the vessel if it should be turned bottom upward. The patient usually lies on his back with his head and shoulders raised

In some cases fever is a uniform accompaniment. It varies extremely in degree, sometimes so mild as almost to escape notice, and sometimes raging in the highest degree. Headache sometimes prevails to more or less extent, and occasionally is the only symptom the patient complains of for several days. Delirium now and then occurs, and is usually an unfavorable symptom. The fever often assumes the remittent form. The pulse varies very much in its character, sometimes full & strong, and not much accelerated, and sometimes on the contrary it is small frequent and less vigorous; it some-

times reaches one hundred and forty in the adult. Blood drawn presents a buffed appearance, the blood is said to have an abundance of fibrine. The urine is scanty and high colored. Thirst and loss of appetite are universal. The tongue is generally moist and coated with a white or yellowish white fur.

Physical Signs

Before the discovery of percussion and auscultation, many cases of this disease ran their whole course unsuspected, as the other symptoms such as cough, pain in the chest are sometimes wanting. And as fever and headache are common to so many diseases that it indeed

the diagnosis impossible in many cases. Sometimes the early sputa will fail, as the patient would swallow the expectorated matter, as is the case generally in children, or there would be nothing expectorated as is sometimes the case, so we see that the physical signs are all important in the diagnosis of this disease. In the first stage, percussion affords but little evidence, but auscultation is more decisive. There is usually a slight diminution of the healthy resonance, but not sufficient for diagnosis. The healthy murmur has given way to a crepitant rale. A dull inspiration will often develope the crepitus, when not perceptible in ordinary

breathing. As the disease advances into the second stage, the crepitation ceases and no sound is heard or, that only of bronchial respiration, which is the characteristic sign of hepatization. The third stage, cannot be distinguish-ed by the physical signs, so long as the pus remains diffused in the parenchyma, constituting grey hepatization. It has the same flatness on percussion and instead of the bronchial respi-ration, we have what is termed a mucous rale. Should an abcess have formed, and opened into the bronchia, we would have a gurgling rale if the cavity should contain a liquid. Among the unfavorable

symptoms, are copious perspirations, diarrhoea, hemorrhages, cutaneous eruptions &c &c.

Diagnosis, The diseases with which pneumonia is most liable to be complicated are bronchitis, pleurisy, and certain stages of pneumonia. The sputa in bronchitis, though sometimes streaked with blood, but never has that viscid and rusty character seen in pneumonia. No true crepitant rale is heard in bronchitis but a dry and mucous rale. In pneumonia the urine is said to be deficient of the chloride of Sodium. The physical signs together with the many symptoms, present in pneumonia are

sufficient to render the diagnosis very plain.

Prognosis. In cases of simple pneumonia, occupying only a portion of one lung, and in persons of good constitutions, without any complications, there is every reason to hope for a favorable termination, age seems to exert a powerful influence in regard to mortality, the young are less liable to a fatal termination, than those of middle, or old age. and in very advanced persons the disease is most always fatal. And in those persons who are predisposed to scrofula it is very dangerous, as it is very apt to deposit

a tubercle in the lung. the danger also increases according to the amount of lung involved.

Causes, Sudden exposure to cold when the body is warm. Acid poisonous inhilations, excessive use of the voice, excesses in drinking, the suppression of habitual discharges. the sudden disappearance of cutaneous eruptions, are among the most frequent causes. Of the many predisposing causes cold may be said to be the most efficient, so the disease prevails in cold climates mostly. Age and sex do not appear to have any influence on the frequency of its occurrence. It sometimes follows severe injuries.

Treatment. With regard to the treat-ment, there seems to be no general principal, what seems to be benefi-cial in one case, has been known to prove fatal in other. Some rec-ommend active depletion while on the contrary others recomend stimulation. Bloodletting has been practised to too great an ex-tent, and I am inclined to agree with Dr Reid, in his assertion which is as follows, less slaughter, I am convinced, has been effected by the sword than by the lancet, that minute instrument of mighty mischief. But there are certain stages, of this disease with which it

may be employed with much advantage. Antimony has been recommended very highly, Mr Bennett says in his able work that from an observation of his of cases treated by bloodletting, Antimony, and hygeine the mortality was as follows, of those treated by bloodletting one in five, of those by Antimony one in five and a fraction and those by hygeine one in thirteen his observations were gathered however from hospitals where the poorer class of persons go, and the principal cause of the disease was for want of something diet is the cause of hygenic treatment agreeing with them so well in my opinion. The treatment

which I should pursue would be, if the patient was one of robust nature with hard and quick pulse, and I should be fortunate to see him in the commencement of the attack would be to bleed him at once, then clear out his bowells, and give him from 1/8 to 1/16 of a grain of tartar emetic, every 2 hours, and should it irritate his bowells to much, I would give him as a substitute the neutral mixture or effervescing draught, and should the patient be restless at night, you might give him a doses powder. In the second stage bleeding is not generally admissable, blisters should be employed, and it might be well

to commence with the mercurial plan, give calomel and Doris pondus combined every few hours until salivation is produced if you deem it necessary to salivate, still later you might give the stimulating expectorants, One word in conclusion in regard to blood letting, if you used it should be at the commencement of the disease and not after the lapse of several days.

1865

An Inaugural Dissertation On Pneumonia

Submitted to the examination of the

Provost, Regents and Faculty of Physic of the University of Maryland

For the Degree of Doctor of Medicine

By

Henry C. Shipley
of Maryland

1865

Pneumonia

The name of pneumonia is applied to inflammation of the lungs from any cause or pneumonitis. There are several varieties of this disease, a table [illegible] is built manual. These varieties are named when different portions of the lungs which may be inflamed. The inflammation may occupy only a portion of the lung embracing a whole lobe or it may involve the whole lung. For use of distinction it is sometimes called lobar pneumonia. When it occupies distinct lobules or only parts of lobules it is called lobular pneumonia. It is called lobular pneumonia. It sometimes involves both lungs when it is distinguished by the name of double pneumonia. It may also involve the air-cells

chiefly, which is called vesicular pneumonia or it may invade the interior lobules between the air-cells, in this case it has been called interstitial pneumonia. It however most frequently invades the whole lung including air-cells and small bronchial tubes, the disease is then often involved with the substance of the lung. In such cases when large portions of it is involved it is designated by the name of lobular pneumonia. This disease may be primary or secondary. It is sometimes associated with a low condition of the system in which case it is called typhoid pneumonia. It may also be complicated with fibrous disorder and is then called fibro pneumonia. I have no space for a detailed

on the different kinds of pneumonia. I will not refer to the different stages, and also the motion in regards to the different sorts commonly called common pneumonia and give a concise account of each stage in detail.

Common Pneumonia

There are three main stages of common pneumonia. First that of congestion; Second that of inflammation or hepatization. Third that of resolution. In the first stage the lungs are red and very soft under pressure and also can be easily cut through with a knife. In the second stage

It is more compact and heavy than
in health and also increased in density.
Flesh does not sink in water, if the lungs
should be examined at this stage. The
lungs still retain the redness of health
if not it will have in the stage of
hepatization. The lungs stage or that
of hepatization is [illegible] [illegible] it
nothing is distinction is the [illegible]
[illegible] of redness or solid from [illegible]
presence of exudation, [illegible] of lungs
so much so that the usual portion
of lungs sinks in water.

[illegible]

[illegible] of the black pigment of [illegible]
and the lymphatic glands. The lungs
is so [illegible]

the organs. [illegible]
the appearance of liver, and this account
it was said to be hepatized. When pres-
sed between the fingers it exuded a reddish
brown fluid and when cut presents nu-
merous granules which are supposed to be
the air-cells filled with consolidation.
One peculiar characteristic of this stage
is that the bronchial tubes and blood
vessels are still open to examination and
the lungs will not collapse when exposed
to the atmosphere as they do in health.
Third stage or Mitchell's term it
Stage of Suppuration. In this stage the
lungs are much softer than in the
second stage, so much so that when pres-
sed between the fingers will break and

a purulent fluid. As we very rarely
meet with this stage of the disease, on
account of the patient either recovering
or sinking before it reaches this stage
I will say but little in reference to it.
I let three different stages, viz - Dulness
and pomelness but not always distinct.
They are always noted as the extremities
and all these stages are together at
the same time, for I found to be
the case from a close review of the
information by the learned, and of
practice. In regard to the pathology of
these different stages it may be sufficient
to say that the first stage is a
congestion of the lymph-vessels of
the blood, with the pus cells with-drawn

is consolidated into pus, and is exhausted and absorbed, but in neither case is its integrity, for the most part, so much the right lung is mostly affected, and in reference to the portion most liable to be attacked, Louis considers the lower part most frequently the seat of inflammation. This view seems to concur with the same tendency of practice of this Hospital, as I only have given at the end of the consol. acute pneumonia at current manner; I will now advance to the Symptoms, Pathol. Considerations &c.

Common acute Pneumonia

This form of the disease is usually

ushered in by a chill, followed by congestion, difficult breathing, cough, pain in the side and back part of the chest, sometimes these symptoms are preceded by a feeling of lassitude and uneasiness, loss of appetite more or less fever. Where the disease is fully developed characteristic symptoms are: Cough, quick hurried breathing, pain in the side and back part of the chest. The cough at first is dry and only at a later period expectoration stained with blood. In from one to two days or later the effect of pus, sometimes in the lungs the fluid is very white and scanty, and by pressure on the side or back of the chest. The sharp pain is relieving to the patient.

of the Bronchi. As this is gradually spread to deglutition. The breathing is very hurried, the number of respirations are very increased, so much so that they often reach as high as sixty per minute. The distress is sometimes very severe, sometimes necessitates the Patient to take an erect position. This differs greatly in different persons, Cough is constantly present in the course of the disease though it has been in it to be absent at first. It is generally with only a little mucous expectoration but in the course of two or three days it becomes heavy & rather as thick as and often stained with blood, so much so that it often presents a rusty appearance. As the disease the sputa becomes more viscid. The tongue

so great that the blood refuses to flow
of the pain. This state may extend
to hebetudine is one of the most characteristic
signs of Pneumonia and sometimes proves
the existence of this disease when the other
signs fail. The expectorated matter comes
from the minute tubes, and is caused by
a slow circulation. [illegible]
sometimes so great as to resemble the blood
of the lungs and [illegible] [illegible]
in relation to the bronchites. The patient most
frequently lies on his back, with his shoulders
raised [illegible] [illegible]
likely to die on the 8th. [illegible] to the
inflammatory phases, [illegible] is almost
uniform [illegible] in these cases and in
some cases [illegible]

like the other symptoms, are variable. It is often of a remittent form, and is generally most severe in the evenings which causes severe pain in the head, dyspnoea, cough, pulse sometimes and increased expectoration. Blood drawn from the arm is often of a dark color and greatly buffed. So long as you strictly must not make use of white or yellow ones, but it may often be used with safety. It has been said in the learned Sol of Practice of this University that the blood is rather more deficient in the arm after inflammation. It does seem to be a fact in the serum of the blood and the state contained in Cancer. Dr. Parkes [illegible]

Physical Signs

The physical signs are of the highest importance in the diagnosis of Pneumonia. Before the discovery of auscultation and percussion many cases went through without the higher diagnosis. In the cold stage or that of congestion, percussion affords but little evidence of the nature of the disease. But, auscultation is much more conclusive. Crepitation is present in the first stage. It is more marked towards the base than in the chest. It is said by some of the best to be the most [illegible] sign. This crepitation is one of the most characteristic symptoms of the cold stage of Pneumonia. As the disease advances to the second stage the crepitation ceases, and the [illegible]

which is most conspicuous is the bronchial respiration and this is considered one of the best signs of infiltration. Bronchophony is another audible sound in the second stage, one of the most obvious signs of the second stage is a loss of the normal vibration of the chest which can be recovered by placeing the hand on the chest. In this stage hemoptysis still does diminish and flatness. He says the pain I think can generally be stopped and not always death. Pneumonia and these signs may be absent, as in, but are [illegible] should be arrested at this stage the [illegible] mucus may be returned. In the third [illegible]

[illegible] our diseases [illegible]
[illegible] Preliminary remarks on this plague,
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
disappear, [illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
this plague to the second, or stage of
consolidation, which will come on at various
periods, Pneumonia even at this stage con-
[illegible] [illegible] [illegible] [illegible]
[illegible] before it reaches this stage, [illegible]
[illegible] [illegible] [illegible] [illegible]
[illegible] to occur, As in the case of double
pneumonia, the pain is increased, and
[illegible] [illegible] [illegible] [illegible]
strength depressed, The usual sense often

ous. Hemorrhoids is a very marked feature in its symptoms, when it occurs in a person with a debilitated system. It also in such cases we have no local pain, and most of the typical symptoms are absent. In our local symptoms and cough, dyspnoea and fever, there are generally great prostration, a small weak pulse and pale sunken features. The patient in this stage commonly sinks rapidly. I will now give a cursory view of the different forms of pneumonia. Commonly with bilious pneumonia, there is some bilious disorder of the system, but by far the most frequent form of this disease is that associated with intermittent and remittent fever. This is the

common form of the disease in miserable localities. The thoracic signs of the form of disease varies very little from the other forms given above. Fever, pain in the head, thirst, [illegible] in those of [illegible], yellowness of skin and coated tong, and sometimes [illegible] a bilious character. The [illegible] is of a rapid [illegible] character, and the grade of albuminuria is not so high as the [illegible] of disease above described. [illegible] of [illegible] are [illegible] treatment, [illegible] the [illegible] [illegible]

Typhoid Pneumonia

Typhoid Pneumonia, not unfrequently attacks

versons or a low and feeble or typhoid state of the system. In all such cases we must speak of pneumonia as to treat. In such cases the local symptoms do not differ materially from the disease in the ordinary form. [illegible] and cough the [illegible] is so [illegible]. In most cases the pain is [illegible]. On rest [illegible] [illegible] [illegible] this form of disease, is the [illegible] [illegible] [illegible] it is about two [illegible], it is more [illegible] and [illegible], [illegible] the other forms of disease. [illegible] [illegible] [illegible]. The [illegible] is [illegible] [illegible]. The local signs are dullness on percussion and loss of the [illegible] [illegible]

This affection occurs most frequent in the of malignant children and recover from this stage of the disease is very slow and tedious,

Chronic Form of Pneumonia

This form of the disease is not, often met with, and some doubts as to its existence. Therefore I shall not occupy any time on the subject as that of the disease I shall next take up the diagnosis of Pneumonia. [illegible] Pneumonia is not likely to be confounded with a Pleurisy [illegible] cases of Asthma [illegible] the character of the disease by which it

must be distinguished from [illegible]
is when bronchitis extends to the [illegible]
ramifications of the bronchial tubes, not
unfrequently these two diseases are combined.

Prognosis

Primary Pneumonia, when it attacks persons
of a strong vigorous constitution, [illegible]
[illegible] in any other disease. [illegible]
every reason for to look for a favorable
termination. In debilitated persons it is
more fatal and when it occupies, the
either lobe of the lung, it is [illegible] to be
more fatal than [illegible] in the middle
lobe. [illegible] is said to be [illegible]
[illegible].

Causes of Pneumonia

Vicissitudes of weather are among the most prominent causes of Pneumonia, and violence, and Lacerations of moral insania and excessive use of the voice and many other causes, which I do not deem it necessary to mention.

The treatment of the various forms of Pneumonia, in their different grades of violence.

Treatment of Common Pneumonia

In persons of vigorous constitutions, bleeding is the most efficient remedy. We observe in this the loss of blood better than common well developed Pneumonia. This operation is called venæsectio, or opening intermittent, with the view of diminishing the labor of the diseased lung. The decision of the quantity to be taken we must be guided by the stage of disease and constitution of the patient. In persons in health from sixteen to twenty ounces may be taken with infinite ease. The disease should not abate after this, but if the pain lasts, in no case you must not bleed as much as in the first.

Cases sometimes occur in which the loss of blood is necessary though the pulse may not indicate it. The lungs are overloaded by the sudden congestion and the direction of respiration is very much interfered. In such cases it is often advisable even doubtful. The question of the dose, or how much should raise the indications are to keep on until the disease is relieved, but should they diminish in frequency the indications are to stop. If inflammation has been subdued the case would be [illegible] to confirmed [illegible] that may be kept open by mild cathartics, [illegible]

of tartar emetic should be used, repeated at short intervals, continuing less long, two or three hours. When the skin is hot, dry, the neutral mixture, or Nitre may be used if there is not much of the stomach, or vomiting should subsiste; the opposing drug should be substituted in the antimonials.

After the circulation has been sufficiently restored, a mixture consisting of [illegible] and Calomel, may be given at night in some of [illegible] should continue after the [illegible] be taken by Opiates, or Lozenges and also large emollient, calaplasms and warm, and [illegible]

stopped — or at the most, the bowels may be eased by warming aromatic and carminative water, then should the diet be plentiful and nutritious, then to the seat, the frequently the disease will subside under this treatment, and require no further remedies. But if it should not, the mercurial inclination should be resorted to. When the symptoms are not so alarming; and the mercurial inclination is required, three or four grains of calomel with half a grain of opium should be given in full event four hours. Mercurial inclination should be tested to the degree of slightly affecting the gums. When it begins to begin the mercurial inclination, stop the diet, &c.

[illegible] [illegible] [illegible] [illegible]
a [illegible] [illegible] should be applied to
the [illegible], but it should not be applied
until the [illegible] [illegible] [illegible]
Either [illegible] or the [illegible], stimulants
should be resorted to. The strength of the
[illegible] should be sustained with [illegible]
of the [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
the horse should [illegible] [illegible]. The
tincture of Digitalis may be combined
with the [illegible].

Should the strength fail
in the advanced stage, stimulants should
be resorted to. [illegible] [illegible]
Opium [illegible] [illegible] [illegible]
administered [illegible] [illegible] [illegible] [illegible]

must be had to sulphate of Q[illegible]

Oil of Turpentine is also highly recommended. Compressed sponges

hydrat and Chloral in [illegible] oz.

Quinine, Quinia and Arsenic Oil.

Treatment of the Second Stage

In Pneumonia we not seldom meet the second stage or that of hepatization. Bleed should be done with caution, as this form of the disease does not have the character of that seen in the first stage of the disease. [illegible] stage to take blood of [illegible] and sometimes it may need to be [illegible]

But after four or five days it is rarely we can cut short the disease by bleeding, it does run its course, and the principal object is to keep up the strength.

The above treatment is such as has been strongly recommended by numerous Practitioners, [illegible] and other suitable means of cutting short the disease, without the use of the lancet. Cases there are [illegible] in which we unfortunately meet with [illegible] unable to bear the lancet. I am [illegible] some indeed have relied upon it to the exclusion of the lancet. Others, against use this lancet first, and then resort to the antiphlogistics [illegible]

[illegible] not in [illegible] [illegible] [illegible] [illegible]
its emetic properties, second for its derivative effects to the [illegible] [illegible]
the lungs, and thirdly as its sedative effect
to the arterial system, [illegible] [illegible] [illegible]
[illegible] if some [illegible] to [illegible] [illegible]
Emetics in large doses, in order to complete
tolerance, this again recommend small
doses [illegible] [illegible] [illegible]
[illegible] [illegible] [illegible] [illegible]
to give [illegible] [illegible] [illegible] [illegible]
two fluid ounces of Water, A little Laudanum
should be added if the antimonials should
produce exhausting purgation, and in it should
induce much vomiting a few drops of
Hydrocyanic acid may be given with it,
For this course of treatment, the disease

generally abates, but the antimonial should not be stopped, or it so the disease may return. But the antimonial plan is not without its dangers. The depression may be too great, or gastro intestinal inflammation may be induced, and must also cause exhaustion by excessive vomiting &c.

A patient under this form of treatment should not be long from the attention of the practitioner as serious evils may result. Some form of treatment is [illegible] there is a gastro intestinal [illegible] is, I think, less [illegible] treatment or the lancet, Nebeberra has been really [illegible] in the treatment of Pneumonia, and particularly in the [illegible] regions [illegible]

as to reduce the pulse to its normal standard without vomiting. It seems to reduce the inflammation so that it may be used instead of the lancet when the patient would not permit of its use.

Tartar emetic and other remedies which are used in Pneumonia with good success. Such as Antimonial wine, Antimonial Wine of Opium, and the different nitrates. The main dangers are in the stomach. Opium may be used instead, with the addition of Camphor.

This course of treatment would be very imperfect, without mentioning some [illegible] of the [illegible] bowels. Bland repelled emulsions or inflammatio

efforts should be made to restore the to the surface of the Retina warm
and blisters. The Patient should lie with his shoulders raised, and in long Debauches care should not be allowed to lie too long one, one side, on account of settling of blood in one part from gravitation. Diarrhoea should never be severe enough to cause him. The temperature of the room should be as equable as possible. The diet should be light and nutricious, some mucilaginous or farinaceous substance in the first stage, and in the more advanced stages Tea and toast with a little fish. This constitutes the course of treatment in the second stage of this disease.

Bilious Pneumonia.

In the form of the disease, which is most its peculiarities merely be an association of hepatic and pulmonary inflammation. No medication or the treatment will be required, except the mercurials should be administered at the beginning of the disease and continued until the mouth is affected, but if it is associated with the miasmatic form of the treatment will be required. [illegible] not based blood letting as well as the other forms of disease, but yet in some cases a little may be taken with safety to relief. It will [illegible] depend on the constitution of the patient.

Leeches and cups may be used when the lancet could not, &c. When there is some doubts as to the use of the lancet, it may commence the treatment by administering an emetic - tartar. For this purpose as may as Tartar emetic and Calomel, or a [illegible] of Ipecac and Calomel, followed by Magnesia. Blisters may be resorted to as in Delirium. The other restorations are the same as in the common form, with an exception and that is [illegible] of Quinia upon the [illegible]. The treatment should be varied as actual [illegible] by the course is a [illegible] success in treating [illegible] as the [illegible]

breaking down the disease, as the poison acts as a stimulant to the disease and therefore it should be broken down. Thus be to either grains of Sulphate of Quinia must be given between the paroxysm in a large dose, such as from ten to twelve grains. But if you should wish to produce a steady effect small doses must be given, that the disease not [illegible]

In third form, this form of treatment is very useful. The Quinia may be combined with Calomel, Opium and Ipecac, under this form of treatment the disease is diminished [illegible] and put on a low form. Stimulants should be used [illegible]

Typhoid Pneumonia

Bleeding is not rarely indicated in this form of disease. In the [illegible] assumes a very low type. The best plan of treatment is in the disease as soon as its early stage, to commence with an emetic of Tartar and follow it by a purgative dose of Calomel. Afterwards the patient should be [illegible] upon Quinine, Tartar and Calomel in small doses [illegible] the most is [illegible] as symptoms of [illegible] should be given [illegible] Carbonate of Ammonia. [illegible] pass past, they should be [illegible] by the compound infusion of bark,

and bathing Rum and Brandy in ex-
cess or [illegible], Ardent Spirits should
be given to Pa. also an aperient to
its use. Oil of Turpentine is highly
spoken of. When there is a bloody dis-
charge from the lungs, the suffering
and bowels are important ingredients.
If the bowels are constipated they may
be cleared by Sulphur Epsom

The diet should be
nutricious and stimulating, such as
Eggs, Rare roast & the [illegible]
food. Milk, Eggs and [illegible] may be
given,

I have now concluded my
remarks on this subject which I selected
in the [illegible] of my time, or just

as I have been able to have given a brief and correct account of the disease, much more might be said, but I hope this will be satisfactory to Dear Sir, and of the new beginners, I now submit it to your investigation, hoping it may receive due consideration.

Accept my Regards

Yours &c &c.

1865

An Inaugural Essay on Influenza.

Respectfully submitted to the Provost Regent & Faculty of Physic of the University of Maryland, For the degree of Doctor of Medicine

By

John S. Gross Jr.

of Maryland

Influenza,

Medicine is an experimental science, — one that lacks opportunity have but a fond hope of saying anything new or original. This must be my apology for the dullness of my Thesis and the freedom with which I have quoted from the standard authors, the words may be mine, but the theory I will frankly confess to be theirs.

Influenza or Epidemic Catarrh is the name bestowed on a disease of an epidemic character having symptoms of Catarrh.

The first epidemic of this disease of which we have any medical record occurred in the year 1510, though undoubtedly it became that has passed on the earth in

frequently since, decimated its victims on the hosts of Slavers and from the Opium legions.

It respects no age or sex; no cold is so intense, no heat too burning for it.
It will strike the Esquimaux in his hut of snow, the cannibal in his ocean bound home, and the African in the heated sands of the tropics.
Its course is swift and rapid. Now from North to South, now, from South to North.
It may spare one village or city, one house or individual, while all around is prostrated by it.

It has been known to proceed as Cholera, but it has also been known to occur, without there being the least

evidence of the presence of its kindred epidemic; we would therefore judge that they have very little influence upon each other.

As space opens to progress, it leaps from continent to continent, affects the islander in his solitary home, and the mariner in the midst of the ocean. It will strike down vast numbers at once and lingers long after all material for it is exhausted.

It is calculated that at least one half to two thirds of all the community are affected by the epidemic during its duration.

In its character it is mild or severe, sometimes its attacks scarcely affect the health of the patient, and he may not

Cholera in its fatality.

This difference in its character may be accounted for, perhaps, by the exhalation of some poisonous land existing in the atmosphere at the time, which may add to its fatality, for it has been shown that no changes in the atmosphere, and neither an increase of moisture or of dryness of the air, has any effect upon it.

It has been mild and fatal without any Barometrical changes being observed. It will run the same course with the thermometer at zero as at a hundred. Weather changes of the atmosphere seem have little influence upon it.

All we know of the disease is that it is said in all climates at all seasons

of the gum, affect the classes of fever. It may have the mildness of catarrh or the malignancy of the cholera.

The Influenza begins ordinarily as a catarrh with its symptoms somewhat aggravated, sometimes with no perceptible difference.

Coryza, sore throat, soreness of the limbs – pain in the head and back, fever, thirst, excitement of the pulse, heat of the skin and cough are the usual symptoms; some may be wanting altogether, some may be greatly aggravated. The chief characteristic symptom is the weakness which attends it, though this is not always present, for cases have occurred in which the

pulse not only low debilitated but demanded it; this is only the exception, weakness is the general rule, for blood letting in a vast majority of cases would be wholly inadmissible.

Another characteristic is the peculiarity which sometimes attends the pain in the head, affecting the frontal sinuses, then the entire head, at other times passing to the back and shoulders, the cheeks and temples becoming very sore.

Nausea is much more frequently present than is common elsewhere. The debility attending this disease is sometimes so great, that the

patient will sometimes fail in endeavoring to sit up, and the weakness lasts long after the disease is cured.

The inflammation of the throat and other pectoral symptoms vary much in intensity, but have nothing peculiar in them; and auscultation can seldom detect any inflammation of the bronchia.

So far we have traced its external symptoms, and these are all that we can, sometimes indeed they are **entirely wanting**. The disease may appear to have attacked the brain, then we have

the flushed face, the violent headache, perhaps delirium as its chief symptoms.

The stomach may chiefly be affected, then, vomiting, diarrhoea, cholera, & dysentery. Some urinary affection may be alone observable or complicate: the catarrhal.

Inflammation of the lungs and pleura has always been frequent during the prevalence of the epidemic influenza, probably depending on the same cause.

Epidemic cholera, was the same cause as cholera from other causes; terminating otherwise than perspiration the cough becoming

lessens, and the expectoration more abundant, and an increased discharge of urine.

A harassing cough frequently lasts long after the other symptoms have abated or entirely disappeared.

The duration of the disease is one or two days, or it may be prolonged for one or two weeks,— the mean between the two is the ordinary duration.

Influenza viewed as a disease free from all complications is mild, or at most rarely dangerous, as is proven by the fact that unimportant complications arise from it very easily.

Though this consumptive tendency in itself, it is an exceedingly dangerous complication to organic or functional diseases, as heart disease or consumption. It is evident to the most superficial observer that there exists in every large community a vast number of persons afflicted with organic complaints, either latent or well developed, some consumptive in good health, others tottering on the brink of the grave.

It is from this class that this epidemic gathers its victims, and so large is the number affected by it, that its ravages are sometimes

are fearful; so much so, that its fatality at times has been said to equal if not exceed that of Cholera.

Since Influenza is at times capable of producing such fatality, it becomes a matter of some importance to discover the cause whence it springs, in the hope that by removing or lessening the cause or causes we may control the result, or by the knowledge of them we may be better able to shield ourselves from the disease. This important investigation has been diligently pursued by many, and as is always the case where nothing positive is

knowing, this deficiency is only supplied by conjecture.

Some observing that extreme vicissitudes of the weather accompanied some epidemics, have given this as the cause; but if this were so, the same changes should uniformly appear, at every attack of the disease, and not only at every attack, but in every place to which the epidemic spreads. This we have the best authority for believing is far from being the case.

The disease has not only appeared but made fearful ravages without there being any apparent change in the barometer.

It has occurred in all weather, in all seasons, and in places far distant from each other, this could not possibly have been the case if the fever originated in the atmosphere. Some give a peculiar electrical state of the atmosphere as the probable cause, but this state has never been known to exist, or its peculiarity pointed out; it therefore, for one at least, seems to the solution of this question; to give as the cause of a known phenomena a thing the existence of which is itself a history unknown; is but the substitution of an unknown for a [illegible].

Some have ascribed as the cause the exhalation from the earth. These are beyond doubt very noxious, but they are by no means as wide spread, nor have we any just reasons for believing that they could act with the violence and rapidity of this epidemic, for the marine is protected from malaria when on the ocean, though by no means from this disease.

At the approach of winter malaria becomes less violent or entirely disappears because vegetable decomposition ceases.

If lightenings depended upon the same cause it should follow the same course, and still should not as

as preventive of it; on the contrary, we have no authority for supposing that the people of the land of potential power are any more exempt than the inhabitants of the tropics.

We must, therefore, seek, in the cause of the disease other than malarious influences.

Is this disease contagious? Or in other words, can the rapid spread of the disease be in truth contagious character? To answer this question satisfactorily we must first decide on other, viz. Is it spread from individual to individual? Does one attack protect the system against another?

These are the two distinctive marks of contagious diseases, and it is fair to infer that a disease which has neither of these signs ought not to be ranked among the contagious.

In the language of Professor Wood: "It is altogether beyond modern credulity that a disease which sweeps like a tempest over nations and prostrates whole communities almost at the same moment, should be propagated by contagion from individual to individual — that, because it has contagious properties at times, it does not follow that it is propagated by contagion. If this

so the vicinity of the sick would be peculiarly dangerous, yet in an epidemic disease we find that the nurse is not more subject to it than the rest of the community. It does not spread as contagious to, from one member of a family to another, but seizes on all at once. It leaves no scattering cases behind it — when once the epidemic influence has passed over the disease quickly disappears. One attack affords no certain protection against another. In all these features Influenza differs from contagious diseases, and so great is the discrepancy, that few, if any of the writers of the present day dare express any belief in its contagious character. In spite of much more

deserving of attention, has lately been advanced, which attributes influenza to animalcules, or vegetable microscopic fungi existing in the air, and whose rapidity of propagation is only equaled by their brevity of existence. This theory is novel and interesting and may perhaps have some foundation in fact. We can explain by it how it is that a person from one infected district will become the centre of contagion in a place hitherto unvisited by the disease. He may bring some of the animalcules about his person or in his luggage, and although they may be few yet if they only possess the rapidity of reproduction which has been ascribed to

them, they could soon infest a large extent of country, and thus account for the disease at times assuming the form of a contagious character, while wanting in its characteristics. The theory is beautiful and accounts satisfactorily for all the phenomena of the disease and the only feature which marrs its beauty is, that the hypothesis is not susceptible of proof. We cannot demonstrate the existence of these fungi, so they are readily called by the adherents of this theory, invisible; and so they are in truth, when the powers of the microscope have been unable to discover them. The age of Luther is passed. We cannot allow the beauty of a theory to satisfy its want of proof. The effect

authority, but even it must yield to demonstrated facts. We cannot need from any direct proof that these fungi do not exist, but we can say that no instrument which has yet been constructed has been able to demonstrate their existence.

It is true that swarms of insects have made their appearance during the prevalence of an epidemic, but this proves nothing, for the disease **was** appeared and been very fatal in its course, without the co-existence of the insects having been demonstrated. It will bring us nearer to a correct understanding of the nature of the cause of the disease to give an invisible insect as the cause. It is better as Professor Wood remarks "to confess our igno-

ance at once of the cause and patiently await further light upon the subject.

The treatment is the same as that of Colic, though the system will not bear the same depletion as well. Blood-letting is rarely admissible in this disease, though cases may arise in which the pulse will not only bear it, but in a manner demand it; this is the rare exception. If we do resort to the lancet, we should carefully observe the pulse and stop the flow as soon as the pulse begins to falter. The practitioner should always remember that weakness is one of the most characteristic symptoms of this disease, and consider well before he sets the patient at that suffered which he may need in the later stages of the disease.

Eupatorium or Boneset has long been recommended in this complaint. It seems to be useful by its sudorific, laxative & emetic properties when given in a warm infusion, and by its tonic powers, when given cold. When complications occur they are to be treated on general principles. The diaphoretic plan seems now to meet with general approbation; although when there is great debility, the sustaining treatment or decided stimulation may become necessary.
Bronchitis may be known when present by its loud bronchial cough and the condition of the sputa which wants the rusty color of that of pneumonia.
If laryngitis be present it must be treated according to its degree of intensity by leeching, low diet, purgatives, rest of the voice, or if it threaten to become chronic, by a mild mercurial course.

If asphyxia be threatened, bloodletting should be freely employed and the mercurial course early commenced. If these will not answer we must resort to the operation of laryngotomy, and this if possible should be performed in the early part of the disease.

Coryza may be relieved by sponging the face with a sponge wrung out with warm water, the tincture of camph., and sphs. Nit. Dulc. in dose of fifteen to twenty drops at bedtime. For O we must rely mainly upon stimulating injections into the nostrils, Bichloride of Mercury & Nit. Arg. may be used for this purpose. Finally in this, as in a majority of diseases, we must meet the symptoms as they arise supporting the constitution when the debility is great and depleting when the system require it. In all cases with judicious treatment, if the constitution has not been previously impaired by organic disease, we may expect a favorable termination.

CLINICAL REPORT

[Secondary Hemorrhage.
Chronic Diarrhœa.
Traumatic Tetanus.]

OF

[Fracture of Tibia.
Hospital Gangrene.
Gunshot Wound of Head.]

SIX CASES,

Respectfully submitted to the Examination of the Provost, Regents and Faculty of Physic of the University of Maryland, for the Degree of Doctor of Medicine,

by Wm E. Burleigh of Mass.

1865.

Fracture of Hip.

The case of a soldier wounded in a cavalry skirmish Aug. 21st 1864. Gun shot wound middle third of right thigh. Comminuted, Comminuted fracture of femur. I first saw him Dec. 21st. Union of the bone had taken place, but the wound had not healed and had an unhealthy appearance. He had chronic diarrhoea and was very much emaciated. Dec. 23 he received a fall on the floor and fractured the

place that it was far more serious be-
fore. The diseased condition
of the patient, together with
this new complication rendered
the prognosis of the case very
favorable at that time. I im-
mediately applied the anterior
splint to the fractured limb.
For his pain a blister was ap-
plied over the abdomen and pills
Cirpeate Vitrolis gr ¼ et Opii gr ss
after each stool. The blister was
dressed with poultices; the rest of
pills, stools continued for 10 days. The
anal stools were freely ex-
amined. Ferri Citrat. [illegible]
[illegible] continued for

Equal parts of Cod liver Oil and
Whisky, was afterwards used in
half ounce doses, Milk punch,
Sherry Wine and Whisky, alternately
used as stimulants. He has been
bathed freely with Whiskey each day
Morphine was also administered to more
sleep at night. The wound was
first washed with warm water and
by an injection twice daily. The
abscess forming in the vicinity of
the wound which was opened and
discharged freely, has not
been. Since simple water dressing
have been applied. Jan. 20th. The
patient has greatly improved in
spirits. He feels [illegible]

some [illegible] reduction appears
he will recover. Union of
the bone has evidently taken
place again and the part appears
to be rather better adjusted than
before.

In connection with this case
I will make a few remarks con-
cerning the Anterior Splint:

This most excellent
apparatus invented by Prof. N. R.
Smith, is destined to make a
complete revolution in the
treatment of injuries of the
lower extremities. It possesses
superior advantages over all
others. [illegible] in the treat-

of fractures of the thigh and leg, together with all of the complications with which they may be associated. Its merits are recognized and acknowledged by all medical men by whom it has been used, and it is fast growing into greater repute. The surgical history of the present war will bring it before the world as one of the greatest inventions for the benefit of mankind. A large proportion of the wounded in military surgery are such as requires its application; it is included in the U.S.A. Medical Staff list, but is [illegible]

of the military hospital [illegible]
is the means of contributing
much to the ease and comfort
of thousands of our unfortunate
fellow creatures. In a large
number of cases, however, life
has undoubtedly been preserved
by its use; by its means many
limbs have been saved and in
hundreds of cases deformity has
been prevented. This great
innovation is now in its infancy,
it is not yet fully known to
the world; it has entailed inestimable benefits on our fellow
creatures, not only in the glorious [illegible]

and to its worthy minister is
due all of the good it has
done and will do in the
future. —

Hospital Report.

Gun shot wound of thigh with compliications

A soldier wounded, at the battle of Cedar Creek Oct. 19th 1864. flesh wound upper third of left thigh. The ball entered about two and one-half inches below Poupart's ligament, passed immediately inside of the femoral artery and out of the back of the thigh. The ball by some means set fire to his clothes and the whole of the exterior part of the upper third of the thigh and the lower part

of the left ear, nearly burned
through the skin and superficial
fascia. When I first saw him
how 1st the wound presented a
gangrenous appearance; there
was extensive sloughing at the
posterior wound at place of the
entrance of the ball. The bone
was exposed to view and could
be distinctly seen pulsating in
the wound. The surface of the
bone was covered with untouched
granulations. The patient was in
a very weak condition the pulse
at that time was imperceptible. —
Nitric acid was freely applied to
the [illegible] — the

taking care that it did not come in contact with the coats of the artery, a mixture of olive oil and lime water was applied to the burnt surface. Stimulants were freely given him in the form of wine, brandy &c. For awhile there was no marked improvement in his condition. If there appeared to be no increase of disease, the treatment was persisted in and in about three weeks the patient began to show a healthy appearance, healthy granulations appeared over the surface of the burn, his condition was also improved.

Jan. 18'.

the bone he creation over Nature had nearly restored the parts that had sloughed away by gangrene. Ampt. He is able to walk with crutches and presents a strong and healthy appearance

The most unfavorable feature in this case was the existence of Hospital Gangrene this most terrible disease which for the past century has been the scourge of Military hospitals. This disease is unquestionably contagious and appears to be generated in hospitals occupied by recently wounded men. The treatment of the disease has

been greatly varied. The mortality caused by it at the beginning of this war was very great — I have seen the disease in all of its forms in different places and under many different kinds of treatment. The local application of Bromine, Iodine, Nitrate of Silver, Caustic Potash, Solution of Sulphate of Zinc and Sulphate of Copper, Sulphuric and Nitric Acid Solutions of the different vegetable acids All have been tried and more with more or less success. The constitutional treatment should generally be confined to one for the purpose of keeping all of the skin

of nature open. Stimulants should be freely used, together with a good generous diet, if the condition of the patient would admit of it, and in my experience, I should say that the very best local application is undiluted strong Nitric Acid.

In the case which I have reported, the femoral artery was exposed to the ravages of gangrene. The arteries, nerves and veins have a greater power to resist ~~the ravages of the~~ the disease than have muscles or ligaments, but they will finally yield. There was great danger in this case of

rupture of the artery. if such a result had happened, hence prompt surgical aid might have been rendered. There could have been no hope of recovery on account of the low condition and state the patient was in at the time.

Gun Shot Wound of Head.

Wounds of the head whatever their nature may be are always considered dangerous. Mr. Guthrie remarks in his most excellent work on Military Surgery: "Injuries of the head affecting the brain, are difficult of distinction, doubtful in character, tractorous in their course and for the most part fatal in their result." The present war has developed many most interesting cases of this class of injuries.

South St. U.S.A. Hospital Philadelphia
a soldier an inmate of the hospital
attempted to commit suicide by
shooting himself through the head.
A ball from a Colt's Navy revolver
penetrated the brain passing through
the frontal bone near the middle
of the forehead. He was taken
up insensible and we all ex-
pected that he would soon die.
He was placed in bed and ice applied
to his head. Fluids were administered
to him by his mouth which he swal-
lowed apparently involuntarily.
Beef essence and other fluid nour-
ishments were given in sufficient
quantities to sustain life. Six days

after the injury, he fell [illegible]
to [illegible] and distinctly pronou-
-ced a name. About the eighth
day the left eye began to [illegible]
from the socket and there was a
free discharge of pus from within
the orbit of the eye, the eye con-
tinued to protrude more and more
and the discharge of pus con-
tinued also, until the time
of his death. He died the ele-
-vth day after the receipt of
the injury. Post mortem
examination revealed that the
ball had passed through the
[illegible] of the brain, through
the orbital bone and then

made a [illegible] of the inside of the skull, [illegible] found buried in the brain. There was a deposition of pus in different parts of the brain. The patient probably died of pyaemia. I write this case from memory as it came under my care [illegible] I cannot pass as bad a description of it as I should like. I consider it however of sufficient interest to make note of it here.

During the war there has been many cases of recovery from [illegible] in which the brain has been involved, which as generally [illegible]

I was present at the operation
of the extraction of a ball
from the head of a soldier
wounded at the battle of
Gettysburg July 2d 1863. a Minnie
ball had penetrated the frontal
bone above the left temple
and become firmly imbedded
in the skull. it remained there
for several days and was then
removed with considerable dif-
ficulty. and with it some
more of the substance of the brain
the patient immediately
suffered severely from
pain in the vicinity of the wound
and in fits resulting from the

time of the reception of the injury, he was [illegible] his regiment perfectly [illegible].

A Soldier wounded at the battle of Winchester Sept. 19th 1864. The ball struck the forehead near the coronal suture, fracturing the frontal bone, several pieces of bone came away the largest was said to be an inch square, the membranes of the brain were injured and some of the substance of the brain was removed. I first saw him Dec. 21st There was a large cavity in his skull where the bone had been taken away. The wound was cicatrized over the cicatrice forming a [illegible]

what appeared to be a diaphanous membrane covering the cerebellum of the brain. The intellectual physiological phenomena connected with this case is loss of sight in one eye, the injury was a little to the left of the median line and the sight lost on the same side. His intellectual faculties were in considerable impairment and he would remain much of the time in a stupid state. At the time of the injury he required no treatment. A piece of lead was deposited over the place of injury and supported in its place by strings tied back of his head. This was considered a

necessary protection to the superior part, for it is evident that any slight external violence at that place would disturb the brain.

Chronic Diarrhoea

The case of a soldier aged 53 yrs. I first saw him the latter part of Oct. 1864. He had at that time been suffering 3 months with this disease, his constitution was much shattered and he was very much emaciated. His former treatment had been a free use of astringents, tonics &c. as the case demanded, but at no time with any marked appearance of improvement. Notwithstanding [illegible] [illegible] [illegible] [illegible]

was applied over the abdomen and dosed with fourteen brandy was freely used as a stimulant, [illegible] treatment he seemed to rally at first. Opium was also used in proper quantities. At times we could succeed in checking the discharge from his bowels, but it was invariably followed by vomiting and general prostration. The fecal discharge in this disease is very peculiar, resembling as much as anything the scrapings of leather. The food passed is comparatively, [illegible] state, it was not assimilated to the wants of the system. This man has [illegible]

and attention devoted to him, every possible effort was made to check the ravages of the disease but his fate was like the majority of all afflicted with this scourge. he gradually wasted away and died. Post mortem examination revealed an ulcerated condition of the mucous coat of the intestines throughout their full course, but to a greater extent in the large intestine. A peculiarity in this case was there was interspersed in the coats of the intestines small black spots probably the result of disease of the glands of Brunner.

Chronic Diarrhoea

disease that is the most fatal in this war. When one is taken prostrated by it it is rare that he recovers. The most persons survive a slight and what is generally considered an ordinary attack of the disease. The best treatment in the disease is the prophylactic. All persons that are exposed to influences that beget the disease are subject to it, and it is a duty to use every precaution to prevent it. Soldiers are the principal sufferers, it is attributed to exposure of persons, sleeping on the ground in camps, habitual use of impure water, malarial atmosphere, [illegible]

of diet and many other causes. Attention to personal cleanliness, the wearing of flannel next the skin and the use of a flannel band around the abdomen to protect the viscera from cold and other injurious influences are said to be the most effectual preventatives of this dire disease. Brandy, Opium and Quinine are its sovereign remedies. The great fatality among the unfortunate prisoners at the south is produced principally by this disease. "Its terrible effects can hardly be realized by those who are unacquainted with it. Of sixty [illegible]

with Chronic Diarrhoea in its advanced stages admitted into the hospital the same day, and that they had every possible care and attention, and were provided with the best of medical attendants who had had extensive experience in the treatment of this disease, all died but two within three months after the date of their admission. This is one of several instances which has come under my observation of the fearful fatality of this terrible disease —

Secondary Hemorrhage,
Ligation of the Carotid Artery.

The case of a soldier wounded at the battle of Cedar Creek Oct. 19th 1864. He received a ball entering the back of the neck a little to the left of the fourth vertebra and opposite the fourth cervical vertebra and passing through the upper & posterior portion of the left cheek emerging inside of the ramus of the jaw. He suffered several attacks of secondary hemorrhage both from the carotid and posterior wounds which

stopper such time by the prolonged tourniquet application and the use of the perchloride of iron as a styptic. It was certain that important arteries were injured in the wound, but what they were could not be ascertained. He had become very weak and faint from the great loss of blood, and so I was obliged to ligate the common carotid artery. Chloroform was used and the carotid ligated in the right carotid triangle. After the operation weak stimulants were given hot and warm cloths were applied to the side of the head and face operated on for the purpose of keeping up

an even temperature and to an extent compensate for the interruption to the circulation of the blood in the brain. He revived after the operation and was sensible of what was going on around him. After a while he became comatose and died about three hours after the operation was performed.

Post Mortem performed twelve hours after death. The ball entered the posterior wound, passed forwards and upwards fracturing the transverse processes of the third and fourth cervical vertebrae and lacerating the vertebral artery in its course it struck the base of the skull, glanced and descended [illegible]

and passes between the external and internal carotid arteries, which certainly prevented the appearance of disease and passed out of the left wound completely, dividing the facial artery.

This was a most interesting case on account of the complication of important arteries. If it had been either the external or internal carotid arteries that was injured — as was supposed — the operation would have been indicated and under favorable circumstances would have proved successful. If it had been the facial alone it could have been ligated and the hemorrhage stopped. There is a case recorded where the vertebral was successfully

Recovery from Traumatic Tetanus.

A soldier wounded at the battle of Cedar Creek, Oct. 19th 1864. Gun shot wound of foot. The ball entered the heel and passed out of the top of the foot grazing the bones. Nov 1st. There was well marked symptoms of tetanus there was trismus and every other symptom that characterizes the disease. The wound was apparently doing well under ordinary treatment up to the time that tetanus appeared. The first treatment for the disease was [illegible] to the [illegible]

the opium and black draft was administered in full doses every four hours. Afterwards the back was blistered along the spinal column and a grain and a half of morphia at several different times applied. The constitutional treatment was full doses of Extract of Opium and a general anti phlogistic regimen, tonics, stimulants &c. Dec 15th, the symptoms of tetanus left him, Dec 27th he was considered cured. But his nervous system was in a very delicate condition and he was very susceptible to atmospheric influences.

Since the cure [illegible]

during the course of its treatment I regarded it as a very interesting case and decided to make note of it here, for the particulars of the case I am indebted to my esteemed fellow student Mr. McElderry.

The remainder of the cases were written from personal observation, several of them were treated and attended to by myself. In cases where a Post-Mortem Examination was performed, I either assisted in it or performed it myself.